# TOC

**Program Element Descriptive Summary**

Supporting Data FY 2005 President's Budget
Submitted to OSD – February 2004

**Exhibit R1**

# 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 2005
# PRESIDENT'S BUDGET SUBMISSION
# FEBRUARY 2004

## VOLUME II
## Budget Activities 4 and 5

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

# FY 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), R-3 (Army RDT&E Cost Analysis), R-4 (Schedule Profile), and R-4a (Schedule Detail) Exhibits, which provide narrative information on all RDT&E program elements and projects for FY 2003 through FY 2005.

**2. Relationship of the FY 2005 Budget Submission to the FY 2004 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 |
|---|---|---|
| 0604645A | Common Components | 0604645A/F59 |
| 0604645A | Family of Systems, Analysis & Integration | 0604645A/F60 |
| 0604645A | Government Support Costs | 0604645A/F61 |
| 0604645A | Mission Equipment Platforms | 0604645A/F62 |
| 0604645A | Network Software | 0604645A/F63 |
| 0604645A | Other Contract Costs | 0604645A/F64 |
| 0604645A | S of S Engineer & Program Management | 0604645A/F65 |
| 0604645A | S of S Test and Evaluation | 0604645A/F66 |
| 0604645A | Supportability | 0604645A/F67 |
| 0604645A | System Integration Management | 0604645A/F68 |
| 0604645A | Training | 0604645A/F69 |
| 0604645A | NLOS Launch System | 0604645A/F70 |
| 0604645A | Joint Military Intelligence Program | 0604645A/F71 |
| 0604645A/F49 | Non Line of Sight Cannon | 0604647A/F58 |
| 0604808A/443 | Close Combat Capabilities Eng Dev | 0604808A/016 |

| | | |
|---|---|---|
| 0203752A/106 | Avionics Component Improvement Program | 0702239A/C92 |
| 0601104A/H59 | HBCU/MI Centers – TRADOC Battlelabs | 0601104A/H04 |
| 0601104A/H59 | Institute for Collaborative Biotechnologies | 0601104A/H05 |
| 0601104A/H59 | Robotics Collaborative Technology Alliance | 0601104A/H09 |
| 0602105A/H84 | Nanomaterials Applied Research | 0602105A/H7G |
| 0602105A/H16 | Biotechnology Applied Research | 0602120A/SA2 |
| 0602720A/F25 | Pollution Prevention | 0602720A/895 |
| 0604808A/443 | Close Combat Capabilities Eng Dev | 0604808A/443 |

**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** |
| 0603802A/AS3 | Objective Individual Combat Weapon PD/RR | 0604802A/134 |
| 0604770A/202 | Army Common Ground Station (CGS) (TIARA) | 0604766A/957 |
| 0305114A/711 | JPALS | 0604201A/C97 |

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

| **TITLE** | **PE/PROJECT** |
|---|---|
| Range Upgrades | 0603308A/988 |
| Integrated Fire Control | 0603327A/E88 |
| Non Line of Sight Cannon | 0604647A/F58 |
| Avionics Component Improvement Program* | 0702239A/C92 |
| Representation of Space Capabilities* | 0604760A/C69 |

**D. FY 2005 programs for which funding existed in the FY 2004 President's Budget Submit, but which are no longer funded beginning in FY 2005**.

| PE/PROJECT | TITLE | BRIEF EXPLANATION |
|---|---|---|
| 0603305A/TR6 | Army Air and Missile Defense | Program transition to 0603327 |
| 0604710A/L69 | HTI 2d Gen FLIR ED | Program terminated |
| 0604768A/MD6 | ATACMS – Penetrator | Program terminated |
| 0604768A/P01 | Multi-Mode Seeker Development and Test | Program complete |
| 0604802A/AS5 | Artillery Munitions Engineering Development | Program transition to Navy |
| 0604817A/902 | Individual Combat Identification System (ICIDS) | Program terminated |
| 0203726A/33C | Improved Position Azimuth Determining Sys | Program terminated |
| 0203735A/718 | Ground Combat Vehicle HTI | Program complete |
| 0203802A/785 | Longbow Hellfire PIP | Program terminated |

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

| | | |
|---|---|---|
| 0203806A/Z02 | 0602601A/C84 * | 0603020A/B77 */B84/B85/B96 |
| 0203808A/E11 | 0602786A/C60 | 0603322A/B92 |
| 0301359A | 0603005A/C66 | 0603710A/C65/C67 * |
| 0602122A/B72/622 | 0603009A/B18/B31 | 0604328A/C71 |

* Funding ends in FY03

**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

22-Jan-2004

| Summary Recap of Budget Activities | Thousands of Dollars | | |
|---|---|---|---|
| | FY 2003 | FY 2004 | FY 2005 |
| Basic research | 242,924 | 381,593 | 317,506 |
| Applied Research | 852,485 | 1,039,845 | 651,192 |
| Advanced technology development | 1,095,874 | 1,205,226 | 814,615 |
| Advanced Component Development and Prototypes | 944,163 | 920,801 | 734,493 |
| System Development and Demonstration | 2,430,934 | 4,663,567 | 6,129,313 |
| Management support | 954,015 | 893,813 | 859,298 |
| Operational system development | 1,074,181 | 1,096,509 | 929,140 |
| Total RDT&E, Army | | | |

Appropriation: 2040 A RDT&E, Army

22-Jan-2004

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| | Basic research | | | | | |
| 1 | 0601101A | 01 | IN-HOUSE LABORATORY INDEPENDENT RESEARCH | 20,255 | 23,914 | 23,971 |
| 2 | 0601102A | 01 | DEFENSE RESEARCH SCIENCES | 138,432 | 156,146 | 131,206 |
| 3 | 0601103A | 01 | UNIVERSITY RESEARCH SCIENCES (H) | 0 | 85,242 | 75,133 |
| 4 | 0601104A | 01 | UNIVERSITY AND INDUSTRY RESEARCH CENTERS | 84,237 | 99,786 | 77,658 |
| 5 | 0601105A | 01 | FORCE HEALTH PROTECTION | 0 | 16,505 | 9,538 |
| | Total: Basic research | | | 242,924 | 381,593 | 317,506 |
| | Applied Research | | | | | |
| 6 | 0602105A | 02 | MATERIALS TECHNOLOGY | 35,041 | 39,972 | 15,385 |
| 7 | 0602120A | 02 | SENSORS AND ELECTRONIC SURVIVABILITY | 21,700 | 25,230 | 25,629 |
| 8 | 0602122A | 02 | TRACTOR HIP | 6,322 | 5,649 | 6,627 |
| 9 | 0602211A | 02 | AVIATION TECHNOLOGY | 39,163 | 39,172 | 41,629 |
| 10 | 0602270A | 02 | EW TECHNOLOGY | 17,002 | 16,471 | 18,034 |
| 11 | 0602303A | 02 | MISSILE TECHNOLOGY | 52,793 | 91,560 | 51,993 |
| 12 | 0602307A | 02 | ADVANCED WEAPONS TECHNOLOGY | 19,785 | 14,706 | 16,641 |
| 13 | 0602308A | 02 | ADVANCED CONCEPTS AND SIMULATION | 28,453 | 30,431 | 15,041 |
| 14 | 0602601A | 02 | COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY | 81,562 | 125,147 | 69,638 |
| 15 | 0602618A | 02 | BALLISTICS TECHNOLOGY | 61,372 | 57,197 | 51,301 |
| 16 | 0602622A | 02 | CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY | 15,480 | 21,722 | 3,476 |
| 17 | 0602623A | 02 | JOINT SERVICE SMALL ARMS PROGRAM | 5,373 | 5,649 | 5,739 |
| 18 | 0602624A | 02 | WEAPONS AND MUNITIONS TECHNOLOGY | 71,917 | 75,266 | 44,666 |
| 19 | 0602705A | 02 | ELECTRONICS AND ELECTRONIC DEVICES | 61,510 | 76,809 | 41,236 |
| 20 | 0602709A | 02 | NIGHT VISION TECHNOLOGY | 18,707 | 21,506 | 22,617 |
| 21 | 0602712A | 02 | COUNTERMINE SYSTEMS | 18,408 | 26,016 | 20,547 |
| 22 | 0602716A | 02 | HUMAN FACTORS ENGINEERING TECHNOLOGY | 20,247 | 23,913 | 16,899 |
| 23 | 0602720A | 02 | ENVIRONMENTAL QUALITY TECHNOLOGY | 26,461 | 30,824 | 17,026 |
| 24 | 0602782A | 02 | COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY | 20,805 | 18,115 | 18,604 |
| 25 | 0602783A | 02 | COMPUTER AND SOFTWARE TECHNOLOGY | 3,931 | 4,010 | 3,982 |

Appropriation: 2040 A RDT&E, Army

22-Jan-2004

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| 26 | 0602784A | 02 | MILITARY ENGINEERING TECHNOLOGY | 54,562 | 51,577 | 47,152 |
| 27 | 0602785A | 02 | MANPOWER/PERSONNEL/TRAINING TECHNOLOGY | 15,130 | 15,053 | 15,322 |
| 28 | 0602786A | 02 | LOGISTICS TECHNOLOGY | 35,826 | 49,349 | 21,131 |
| 29 | 0602787A | 02 | MEDICAL TECHNOLOGY | 120,935 | 174,501 | 60,877 |
| | Total: | | Applied Research | 852,485 | 1,039,845 | 651,192 |
| | | | Advanced technology development | | | |
| 30 | 0603001A | 03 | WARFIGHTER ADVANCED TECHNOLOGY | 55,618 | 66,855 | 68,034 |
| 31 | 0603002A | 03 | MEDICAL ADVANCED TECHNOLOGY | 168,093 | 217,737 | 38,404 |
| 32 | 0603003A | 03 | AVIATION ADVANCED TECHNOLOGY | 42,388 | 84,966 | 69,549 |
| 33 | 0603004A | 03 | WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY | 61,206 | 53,737 | 67,622 |
| 34 | 0603005A | 03 | COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY | 304,885 | 270,656 | 203,126 |
| 35 | 0603006A | 03 | COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLO | 8,700 | 11,339 | 9,946 |
| 36 | 0603007A | 03 | MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLO | 7,606 | 8,921 | 7,288 |
| 37 | 0603008A | 03 | ELECTRONIC WARFARE ADVANCED TECHNOLOGY | 28,662 | 59,170 | 41,760 |
| 38 | 0603009A | 03 | TRACTOR HIKE | 16,943 | 7,686 | 8,035 |
| 39 | 0603015A | 03 | NEXT GENERATION TRAINING & SIMULATION SYSTEMS | 0 | 15,658 | 18,072 |
| 40 | 0603020A | 03 | TRACTOR ROSE | 3,261 | 4,159 | 4,736 |
| 41 | 0603103A | 03 | EXPLOSIVE DEMILITARIZATION TECHNOLOGY | 0 | 24,842 | 9,706 |
| 42 | 0603105A | 03 | MILITARY HIV RESEARCH | 0 | 14,059 | 6,641 |
| 43 | 0603125A | 03 | COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT FOR | 41,822 | 8,610 | 3,383 |
| 44 | 0603238A | 03 | GLOBAL SURVEILLANCE/AIR DEFENSE/PRECISION STRIKE T | 29,774 | 12,505 | 10,721 |
| 45 | 0603270A | 03 | EW TECHNOLOGY | 18,566 | 25,360 | 9,382 |
| 46 | 0603313A | 03 | MISSILE AND ROCKET ADVANCED TECHNOLOGY | 100,616 | 121,126 | 92,800 |
| 47 | 0603322A | 03 | TRACTOR CAGE | 2,938 | 7,499 | 13,312 |
| 48 | 0603606A | 03 | LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY | 28,075 | 29,662 | 25,577 |
| 49 | 0603607A | 03 | JOINT SERVICE SMALL ARMS PROGRAM | 16,396 | 9,575 | 5,968 |
| 50 | 0603654A | 03 | LINE-OF-SIGHT TECHNOLOGY DEMONSTRATION | 29,931 | 8,739 | 0 |
| 51 | 0603710A | 03 | NIGHT VISION ADVANCED TECHNOLOGY | 77,129 | 84,066 | 50,071 |
| 52 | 0603728A | 03 | ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS | 12,694 | 20,462 | 14,666 |

Appropriation: 2040 A RDT&E, Army

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| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| 53 | 0603734A | 03 | MILITARY ENGINEERING ADVANCED TECHNOLOGY | 13,643 | 13,106 | 3,865 |
| 54 | 0603772A | 03 | ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECH | 26,928 | 24,731 | 31,951 |
| | Total: | | Advanced technology development | 1,095,874 | 1,205,226 | 814,615 |
| | | | Advanced Component Development and Prototypes | | | |
| 55 | 0603305A | 04 | ARMY MISSILE DEFENSE SYSTEMS INTEGRATION | 36,790 | 108,078 | 53,509 |
| 56 | 0603308A | 04 | ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (DEM/VAL) | 56,974 | 35,532 | 4,871 |
| 57 | 0603327A | 04 | AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING | 0 | 121,489 | 91,713 |
| 58 | 0603619A | 04 | LANDMINE WARFARE AND BARRIER - ADV DEV | 9,719 | 36,563 | 11,634 |
| 59 | 0603627A | 04 | SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV | 2,324 | 10,147 | 6,249 |
| 60 | 0603639A | 04 | TANK AND MEDIUM CALIBER AMMUNITION | 26,367 | 26,055 | 39,697 |
| 61 | 0603645A | 04 | ARMORED SYSTEM MODERNIZATION - ADV DEV | 127,951 | 0 | 0 |
| 62 | 0603653A | 04 | ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 150,234 | 60,692 | 51,892 |
| 63 | 0603747A | 04 | SOLDIER SUPPORT AND SURVIVABILITY | 19,664 | 13,833 | 13,810 |
| 64 | 0603766A | 04 | TACTICAL SUPPORT DEVELOPMENT - ADV DEV (TIARA) | 16,112 | 16,878 | 15,441 |
| 65 | 0603774A | 04 | NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT | 10,984 | 7,005 | 14,047 |
| 66 | 0603779A | 04 | ENVIRONMENTAL QUALITY TECHNOLOGY DEM/VAL | 30,980 | 40,509 | 9,356 |
| 67 | 0603782A | 04 | WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL | 48,849 | 81,393 | 99,645 |
| 68 | 0603790A | 04 | NATO RESEARCH AND DEVELOPMENT | 4,561 | 2,747 | 4,801 |
| 69 | 0603801A | 04 | AVIATION - ADV DEV | 10,660 | 14,307 | 9,233 |
| 70 | 0603802A | 04 | WEAPONS AND MUNITIONS - ADV DEV | 35,634 | 31,500 | 2,382 |
| 71 | 0603804A | 04 | LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV | 11,997 | 12,863 | 10,485 |
| 72 | 0603805A | 04 | COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION A | 8,275 | 8,585 | 6,366 |
| 73 | 0603807A | 04 | MEDICAL SYSTEMS - ADV DEV | 13,280 | 13,392 | 10,258 |
| 74 | 0603850A | 04 | INTEGRATED BROADCAST SERVICE (JMIP/DISTP) | 1,928 | 2,073 | 4,356 |
| 75 | 0603854A | 04 | ARTILLERY SYSTEMS - DEM/VAL | 306,778 | 0 | 0 |
| 76 | 0603856A | 04 | SCAMP BLOCK II | 14,102 | 27,716 | 10,221 |
| 77 | 0603869A | 04 | MEADS CONCEPTS - DEM/VAL | 0 | 249,444 | 264,527 |
| | Total: | | Advanced Component Development and Prototypes | 944,163 | 920,801 | 734,493 |

Appropriation: 2040 A RDT&E, Army

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| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| | | | System Development and Demonstration | | | |
| 78 | 0604201A | 05 | AIRCRAFT AVIONICS | 35,971 | 47,155 | 68,857 |
| 79 | 0604220A | 05 | ARMED, DEPLOYABLE OH-58D | 1,759 | 0 | 0 |
| 80 | 0604223A | 05 | COMANCHE | 865,613 | 1,068,029 | 1,229,664 |
| 81 | 0604270A | 05 | EW DEVELOPMENT | 38,291 | 32,870 | 16,879 |
| 82 | 0604280A | 05 | JOINT TACTICAL RADIO SYSTEM | 62,892 | 133,293 | 121,400 |
| 83 | 0604321A | 05 | ALL SOURCE ANALYSIS SYSTEM | 54,341 | 19,959 | 5,346 |
| 84 | 0604328A | 05 | TRACTOR CAGE | 9,304 | 16,046 | 14,149 |
| 85 | 0604329A | 05 | COMMON MISSILE | 28,104 | 93,705 | 152,381 |
| 86 | 0604601A | 05 | INFANTRY SUPPORT WEAPONS | 0 | 28,340 | 28,187 |
| 87 | 0604604A | 05 | MEDIUM TACTICAL VEHICLES | 3,584 | 4,321 | 2,854 |
| 88 | 0604609A | 05 | SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ENG DEV | 7,521 | 11,968 | 3,798 |
| 89 | 0604611A | 05 | JAVELIN | 467 | 946 | 944 |
| 90 | 0604622A | 05 | FAMILY OF HEAVY TACTICAL VEHICLES | 13,852 | 16,875 | 2,479 |
| 91 | 0604633A | 05 | AIR TRAFFIC CONTROL | 2,161 | 2,489 | 2,088 |
| 92 | 0604641A | 05 | TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 1,146 | 0 | 0 |
| 93 | 0604642A | 05 | LIGHT TACTICAL WHEELED VEHICLES | 7,900 | 18,010 | 0 |
| 94 | 0604645A | 05 | ARMORED SYSTEMS MODERNIZATION (ASM)-ENG. DEV. | 159,175 | 1,423,146 | 2,700,455 |
| 95 | 0604647A | 05 | NON LINE OF SIGHT CANNON | 0 | 260,495 | 497,643 |
| 96 | 0604649A | 05 | ENGINEER MOBILITY EQUIPMENT DEVELOPMENT | 7,651 | 0 | 0 |
| 97 | 0604710A | 05 | NIGHT VISION SYSTEMS - ENG DEV | 31,687 | 38,816 | 24,693 |
| 98 | 0604713A | 05 | COMBAT FEEDING, CLOTHING, AND EQUIPMENT | 80,989 | 98,960 | 115,093 |
| 99 | 0604715A | 05 | NON-SYSTEM TRAINING DEVICES - ENG DEV | 55,865 | 70,870 | 51,694 |
| 100 | 0604716A | 05 | TERRAIN INFORMATION - ENG DEV | 8,092 | 6,905 | 3,199 |
| 101 | 0604726A | 05 | INTEGRATED METEOROLOGICAL SUPPORT SYSTEM | 3,359 | 3,275 | 2,485 |
| 102 | 0604738A | 05 | JSIMS CORE PROGRAM | 28,759 | 0 | 0 |
| 103 | 0604741A | 05 | AIR DEFENSE COMMAND, CONTROL AND INTEL - ENG | 26,983 | 28,993 | 27,376 |
| 104 | 0604742A | 05 | CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 43,673 | 16,818 | 42,869 |
| 105 | 0604746A | 05 | AUTOMATIC TEST EQUIPMENT DEVELOPMENT | 12,647 | 11,316 | 4,713 |
| 106 | 0604760A | 05 | DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENGIN | 18,087 | 25,789 | 26,985 |

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| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| 107 | 0604766A | 05 | TACTICAL EXPLOITATION SYSTEM/DCGS (TIARA) | 57,229 | 26,022 | 21,821 |
| 108 | 0604768A | 05 | BRILLIANT ANTI-ARMOR SUBMUNITION (BAT) | 55,922 | 9,897 | 21 |
| 109 | 0604770A | 05 | JOINT SURVEILLANCE/TARGET ATTACK RADAR SYSTEM | 4,509 | 4,656 | 0 |
| 110 | 0604778A | 05 | POSITIONING SYSTEMS DEVELOPMENT (SPACE) | 0 | 1,558 | 2,048 |
| 111 | 0604780A | 05 | COMBINED ARMS TACTICAL TRAINER (CATT) | 8,162 | 3,956 | 23,849 |
| 112 | 0604783A | 05 | JOINT NETWORK MANAGEMENT SYSTEM | 7,673 | 9,339 | 10,726 |
| 113 | 0604801A | 05 | AVIATION - ENG DEV | 2,979 | 3,344 | 2,378 |
| 114 | 0604802A | 05 | WEAPONS AND MUNITIONS - ENG DEV | 49,830 | 157,076 | 125,885 |
| 115 | 0604804A | 05 | LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV | 56,101 | 87,471 | 89,151 |
| 116 | 0604805A | 05 | COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV | 89,465 | 216,811 | 219,790 |
| 117 | 0604807A | 05 | MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPM | 18,769 | 22,615 | 11,727 |
| 118 | 0604808A | 05 | LANDMINE WARFARE/BARRIER - ENG DEV | 125,024 | 96,187 | 51,045 |
| 119 | 0604814A | 05 | ARTILLERY MUNITIONS - EMD | 102,141 | 122,631 | 133,297 |
| 120 | 0604817A | 05 | COMBAT IDENTIFICATION | 4,983 | 11,817 | 6,994 |
| 121 | 0604818A | 05 | ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWAR | 97,970 | 101,166 | 68,110 |
| 122 | 0604819A | 05 | LOSAT | 10,603 | 30,488 | 22,628 |
| 123 | 0604820A | 05 | RADAR DEVELOPMENT | 0 | 0 | 6,107 |
| 124 | 0604823A | 05 | FIREFINDER | 28,401 | 26,825 | 18,516 |
| 125 | 0604854A | 05 | ARTILLERY SYSTEMS - EMD | 30,483 | 32,289 | 9,550 |
| 126 | 0604865A | 05 | PATRIOT PAC-3 THEATER MISSILE DEFENSE ACQ - EMD | 0 | 156,827 | 64,178 |
| 127 | 0605013A | 05 | INFORMATION TECHNOLOGY DEVELOPMENT | 70,817 | 63,203 | 95,261 |
| | Total: | | System Development and Demonstration | 2,430,934 | 4,663,567 | 6,129,313 |
| | Management support | | | | | |
| 128 | 0604256A | 06 | THREAT SIMULATOR DEVELOPMENT | 17,593 | 19,601 | 22,101 |
| 129 | 0604258A | 06 | TARGET SYSTEMS DEVELOPMENT | 10,049 | 13,444 | 11,017 |
| 130 | 0604759A | 06 | MAJOR T&E INVESTMENT | 47,054 | 60,141 | 57,987 |
| 131 | 0605103A | 06 | RAND ARROYO CENTER | 21,163 | 22,072 | 20,012 |
| 132 | 0605301A | 06 | ARMY KWAJALEIN ATOLL | 125,327 | 138,884 | 143,921 |
| 133 | 0605326A | 06 | CONCEPTS EXPERIMENTATION | 23,330 | 30,704 | 22,727 |

Appropriation: 2040 A RDT&E, Army

22-Jan-2004

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| 134 | 0605502A | 06 | SMALL BUSINESS INNOVATIVE RESEARCH | 179,142 | 0 | 0 |
| 135 | 0605601A | 06 | ARMY TEST RANGES AND FACILITIES | 129,665 | 182,885 | 181,114 |
| 136 | 0605602A | 06 | ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS | 41,774 | 56,899 | 52,433 |
| 137 | 0605604A | 06 | SURVIVABILITY/LETHALITY ANALYSIS | 34,921 | 41,860 | 44,648 |
| 138 | 0605605A | 06 | DOD HIGH ENERGY LASER TEST FACILITY | 16,672 | 18,299 | 15,725 |
| 139 | 0605606A | 06 | AIRCRAFT CERTIFICATION | 3,555 | 2,999 | 2,985 |
| 140 | 0605702A | 06 | METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES | 6,792 | 9,359 | 8,711 |
| 141 | 0605706A | 06 | MATERIEL SYSTEMS ANALYSIS | 8,978 | 15,642 | 18,000 |
| 142 | 0605709A | 06 | EXPLOITATION OF FOREIGN ITEMS | 3,430 | 3,465 | 4,740 |
| 143 | 0605712A | 06 | SUPPORT OF OPERATIONAL TESTING | 83,911 | 66,995 | 71,239 |
| 144 | 0605716A | 06 | ARMY EVALUATION CENTER | 43,809 | 46,527 | 62,209 |
| 145 | 0605718A | 06 | SIMULATION & MODELING FOR ACQ, RQTS, & TNG (SMART) | 0 | 2,568 | 1,935 |
| 146 | 0605801A | 06 | PROGRAMWIDE ACTIVITIES | 59,836 | 62,966 | 59,368 |
| 147 | 0605803A | 06 | TECHNICAL INFORMATION ACTIVITIES | 54,182 | 42,122 | 27,713 |
| 148 | 0605805A | 06 | MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFET | 30,002 | 39,783 | 14,611 |
| 149 | 0605857A | 06 | ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT | 1,794 | 4,780 | 4,527 |
| 150 | 0605898A | 06 | MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT) | 10,855 | 11,818 | 11,575 |
| 151 | 0909999A | 06 | FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS | 181 | 0 | 0 |
| | Total: | | Management support | 954,015 | 893,813 | 859,298 |
| | | | Operational system development | | | |
| 152 | 0102419A | 07 | JOINT LAND ATTACK CRUISE MISSILES DEFENSE (JLENS) | 33,489 | 58,397 | 81,514 |
| 153 | 0203610A | 07 | DOMESTIC PREPAREDNESS AGAINST WEAPONS OF MASS DEST | 2,437 | 3,956 | |
| 154 | 0203726A | 07 | ADV FIELD ARTILLERY TACTICAL DATA SYSTEM | 44,959 | 28,599 | 17,994 |
| 155 | 0203735A | 07 | COMBAT VEHICLE IMPROVEMENT PROGRAMS | 81,285 | 31,336 | 15,952 |
| 156 | 0203740A | 07 | MANEUVER CONTROL SYSTEM | 40,612 | 39,145 | 24,753 |
| 157 | 0203744A | 07 | AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAM | 206,500 | 276,191 | 224,368 |
| 158 | 0203752A | 07 | AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM | 6,759 | 5,339 | 2,427 |
| 159 | 0203758A | 07 | DIGITIZATION | 27,727 | 18,049 | 24,506 |
| 160 | 0203759A | 07 | FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2 | 59,887 | 47,901 | 23,510 |

Appropriation: 2040 A RDT&E, Army

22-Jan-2004

| Line No | Program Element Number | Act | Item | Thousands of Dollars FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|---|---|
| 161 | 0203801A | 07 | MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM | 39,262 | 46,055 | 31,690 |
| 162 | 0203802A | 07 | OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS | 12,229 | 1,061 | 4,863 |
| 163 | 0203806A | 07 | TRACTOR RUT | 0 | 8,754 | 3,321 |
| 164 | 0203808A | 07 | TRACTOR CARD | 8,495 | 9,153 | 9,023 |
| 165 | 0208010A | 07 | JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC) | 13,281 | 16,362 | 18,177 |
| 166 | 0208053A | 07 | JOINT TACTICAL GROUND SYSTEM | 2,811 | 9,659 | 9,967 |
| 167 | 0301359A | 07 | SPECIAL ARMY PROGRAM | 12,445 | 19,737 | |
| 168 | 0303028A | 07 | SECURITY AND INTELLIGENCE ACTIVITIES | 26,182 | 15,873 | |
| 169 | 0303140A | 07 | INFORMATION SYSTEMS SECURITY PROGRAM | 22,153 | 20,500 | 24,725 |
| 170 | 0303141A | 07 | GLOBAL COMBAT SUPPORT SYSTEM | 49,273 | 55,217 | 94,215 |
| 171 | 0303142A | 07 | SATCOM GROUND ENVIRONMENT (SPACE) | 67,716 | 86,389 | 51,959 |
| 172 | 0303150A | 07 | WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM | 16,704 | 16,934 | 19,204 |
| 173 | 0305114A | 07 | TRAFFIC CONTROL, APPROACH AND LANDING SYSTEM-FY 19 | 934 | 945 | |
| 174 | 0305204A | 07 | TACTICAL UNMANNED AERIAL VEHICLES | 68,650 | 68,629 | 27,127 |
| 175 | 0305206A | 07 | AIRBORNE RECONNAISSANCE ADV DEVELOPMENT | 11,433 | 4,699 | 5,128 |
| 176 | 0305208A | 07 | DISTRIBUTED COMMON GROUND SYSTEMS (JMIP) | 44,805 | 37,375 | 43,254 |
| 177 | 0603778A | 07 | MLRS PRODUCT IMPROVEMENT PROGRAM | 94,584 | 83,903 | 97,422 |
| 178 | 0702239A | 07 | AVIONICS COMPONENT IMPROVEMENT PROGRAM | 0 | 0 | 997 |
| 179 | 0708045A | 07 | END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES | 79,066 | 85,853 | 67,236 |
| 180 | 1001018A | 07 | NATO JOINT STARS | 503 | 498 | 595 |
| | Total: | | Operational system development | 1,074,181 | 1,096,509 | 929,140 |
| Total: | RDT&E, Army | | | 7,594,576 | 10,201,354 | 10,435,557 |

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| Line No. | PE | Program Element Title | Page |
|---|---|---|---|
| **#4 - Advanced Component Development and Prototypes** | | | |
| 55 | 0603305A | Army Missile Defense Systems Integration | 1 |
| 56 | 0603308A | Army Missile Defense Systems Integration (Dem/Val) | 25 |
| 57 | 0603327A | Air and Missile Defense Systems Engineering | 37 |
| 58 | 0603619A | Landmine Warfare and Barrier - Adv Dev | 72 |
| 59 | 0603627A | Smoke, Obscurant and Target Defeating Sys-Adv Dev | 85 |
| 60 | 0603639A | Tank and Medium Caliber Ammunition | 100 |
| 61 | 0603645A | ARMORED SYSTEM MODERNIZATION - ADV DEV | 129 |
| 62 | 0603653A | ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 135 |
| 63 | 0603747A | Soldier Support and Survivability | 143 |
| 64 | 0603766A | Tactical Support Development - Adv Dev (TIARA) | 167 |
| 65 | 0603774A | Night Vision Systems Advanced Development | 173 |
| 66 | 0603779A | Environmental Quality Technology Dem/Val | 186 |
| 67 | 0603782A | WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL | 202 |
| 68 | 0603790A | NATO Research and Development | 210 |
| 69 | 0603801A | Aviation - Adv Dev | 220 |
| 70 | 0603802A | Weapons and Munitions - Adv Dev | 244 |
| 71 | 0603804A | Logistics and Engineer Equipment - Adv Dev | 252 |
| 72 | 0603805A | Combat Service Support Control System Evaluation a | 283 |
| 73 | 0603807A | Medical Systems - Adv Dev | 291 |
| 74 | 0603850A | Integrated Broadcast Service (JMIP/DISTP) | 306 |

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|---|---|---|---|
| 75 | 0603854A | Artillery Systems - Dem/Val | 313 |
| 76 | 0603856A | SCAMP Block II | 315 |
| 77 | 0603869A | Meads Concepts - Dem/Val | 323 |
| **#5 - System Development and Demonstration** | | | |
| 78 | 0604201A | AIRCRAFT AVIONICS | 332 |
| 79 | 0604220A | Armed, Deployable OH-58D | 342 |
| 80 | 0604223A | COMANCHE | 345 |
| 81 | 0604270A | EW DEVELOPMENT | 367 |
| 82 | 0604280A | Joint Tactical Radio System | 401 |
| 83 | 0604321A | ALL SOURCE ANALYSIS SYSTEM | 410 |
| 85 | 0604329A | Common Missile | 433 |
| 86 | 0604601A | Infantry Support Weapons | 440 |
| 87 | 0604604A | MEDIUM TACTICAL VEHICLES | 446 |
| 88 | 0604609A | Smoke, Obscurant and Target Defeating Sys-Eng Dev | 454 |
| 89 | 0604611A | JAVELIN | 462 |
| 90 | 0604622A | Family of Heavy Tactical Vehicles | 465 |
| 91 | 0604633A | AIR TRAFFIC CONTROL | 482 |
| 92 | 0604641A | TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 489 |
| 93 | 0604642A | LIGHT TACTICAL WHEELED VEHICLES | 492 |
| 94 | 0604645A | Armored Systems Modernization (ASM)-Eng. Dev. | 500 |

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| 95 | 0604647A | Non Line of Sight Cannon | 611 |
| 96 | 0604649A | ENGINEER MOBILITY EQUIPMENT DEVELOPMENT | 621 |
| 97 | 0604710A | Night Vision Systems - Eng Dev | 624 |
| 98 | 0604713A | Combat Feeding, Clothing, and Equipment | 657 |
| 99 | 0604715A | Non-System Training Devices - Eng Dev | 695 |
| 100 | 0604716A | TERRAIN INFORMATION - ENG DEV | 708 |
| 101 | 0604726A | Integrated Meteorological Support System | 716 |
| 102 | 0604738A | JSIMS Core Program | 727 |
| 103 | 0604741A | Air Defense Command, Control and Intel - Eng | 730 |
| 104 | 0604742A | CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 747 |
| 105 | 0604746A | Automatic Test Equipment Development | 762 |
| 106 | 0604760A | Distributive Interactive Simulations (DIS) - Engin | 781 |
| 107 | 0604766A | Tactical Exploitation System/DCGS (TIARA) | 807 |
| 108 | 0604768A | Brilliant Anti-Armor Submunition (BAT) | 818 |
| 109 | 0604770A | Joint Surveillance/Target Attack Radar System | 833 |
| 110 | 0604778A | Positioning Systems Development (SPACE) | 842 |
| 111 | 0604780A | COMBINED ARMS TACTICAL TRAINER (CATT) | 849 |
| 112 | 0604783A | JOINT NETWORK MANAGEMENT SYSTEM | 872 |
| 113 | 0604801A | Aviation - Eng Dev | 879 |
| 114 | 0604802A | Weapons and Munitions - Eng Dev | 886 |
| 115 | 0604804A | Logistics and Engineer Equipment - Eng Dev | 932 |

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| 116 | 0604805A | Command, Control, Communications Systems - Eng Dev | 999 |
| 117 | 0604807A | Medical Materiel/Medical Biological Defense Equipm | 1054 |
| 118 | 0604808A | Landmine Warfare/Barrier - Eng Dev | 1079 |
| 119 | 0604814A | Artillery Munitions - EMD | 1109 |
| 120 | 0604817A | Combat Identification | 1122 |
| 121 | 0604818A | Army Tactical Command & Control Hardware & Softwar | 1137 |
| 122 | 0604819A | LOSAT | 1184 |
| 123 | 0604820A | RADAR DEVELOPMENT | 1191 |
| 124 | 0604823A | FIREFINDER | 1199 |
| 125 | 0604854A | Artillery Systems - EMD | 1208 |
| 126 | 0604865A | Patriot PAC-3 Theater Missile Defense Acq - EMD | 1217 |
| 127 | 0605013A | Information Technology Development | 1225 |

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|---|---|---|---|
| ADVANCED TANK ARMAMENT SYSTEM (ATAS) | 0603653A | 62 | 135 |
| Air and Missile Defense Systems Engineering | 0603327A | 57 | 37 |
| Air Defense Command, Control and Intel - Eng | 0604741A | 103 | 730 |
| AIR TRAFFIC CONTROL | 0604633A | 91 | 482 |
| AIRCRAFT AVIONICS | 0604201A | 78 | 332 |
| ALL SOURCE ANALYSIS SYSTEM | 0604321A | 83 | 410 |
| Armed, Deployable OH-58D | 0604220A | 79 | 342 |
| ARMORED SYSTEM MODERNIZATION - ADV DEV | 0603645A | 61 | 129 |
| Armored Systems Modernization (ASM)-Eng. Dev. | 0604645A | 94 | 500 |
| Army Missile Defense Systems Integration | 0603305A | 55 | 1 |
| Army Missile Defense Systems Integration (Dem/Val) | 0603308A | 56 | 25 |
| Army Tactical Command & Control Hardware & Softwar | 0604818A | 121 | 1137 |
| Artillery Munitions - EMD | 0604814A | 119 | 1109 |
| Artillery Systems - Dem/Val | 0603854A | 75 | 313 |
| Artillery Systems - EMD | 0604854A | 125 | 1208 |
| Automatic Test Equipment Development | 0604746A | 105 | 762 |
| Aviation - Adv Dev | 0603801A | 69 | 220 |
| Aviation - Eng Dev | 0604801A | 113 | 879 |
| Brilliant Anti-Armor Submunition (BAT) | 0604768A | 108 | 818 |
| COMANCHE | 0604223A | 80 | 345 |
| Combat Feeding, Clothing, and Equipment | 0604713A | 98 | 657 |

# Alphabetic Listing - RDT&E Volume II


| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| Combat Identification | 0604817A | 120 | 1122 |
| Combat Service Support Control System Evaluation a | 0603805A | 72 | 283 |
| COMBINED ARMS TACTICAL TRAINER (CATT) | 0604780A | 111 | 849 |
| Command, Control, Communications Systems - Eng Dev | 0604805A | 116 | 999 |
| Common Missile | 0604329A | 85 | 433 |
| CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT | 0604742A | 104 | 747 |
| Distributive Interactive Simulations (DIS) - Engin | 0604760A | 106 | 781 |
| ENGINEER MOBILITY EQUIPMENT DEVELOPMENT | 0604649A | 96 | 621 |
| Environmental Quality Technology Dem/Val | 0603779A | 66 | 186 |
| EW DEVELOPMENT | 0604270A | 81 | 367 |
| Family of Heavy Tactical Vehicles | 0604622A | 90 | 465 |
| FIREFINDER | 0604823A | 124 | 1199 |
| Infantry Support Weapons | 0604601A | 86 | 440 |
| Information Technology Development | 0605013A | 127 | 1225 |
| Integrated Broadcast Service (JMIP/DISTP) | 0603850A | 74 | 306 |
| Integrated Meteorological Support System | 0604726A | 101 | 716 |
| JAVELIN | 0604611A | 89 | 462 |
| JOINT NETWORK MANAGEMENT SYSTEM | 0604783A | 112 | 872 |
| Joint Surveillance/Target Attack Radar System | 0604770A | 109 | 833 |
| Joint Tactical Radio System | 0604280A | 82 | 401 |
| JSIMS Core Program | 0604738A | 102 | 727 |

# Alphabetic Listing - RDT&E Volume II

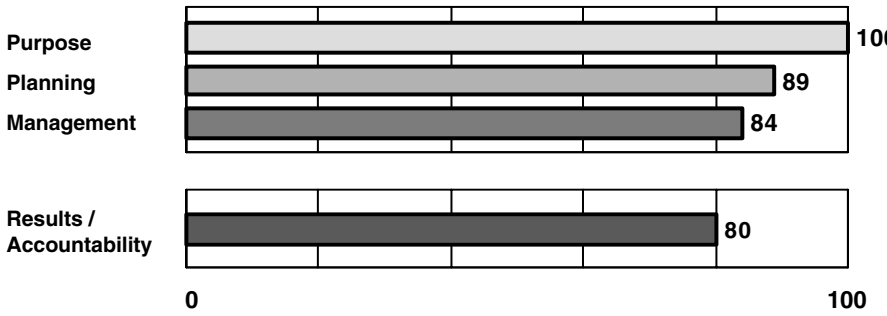

| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| Landmine Warfare and Barrier - Adv Dev | 0603619A | 58 | 72 |
| Landmine Warfare/Barrier - Eng Dev | 0604808A | 118 | 1079 |
| LIGHT TACTICAL WHEELED VEHICLES | 0604642A | 93 | 492 |
| Logistics and Engineer Equipment - Adv Dev | 0603804A | 71 | 252 |
| Logistics and Engineer Equipment - Eng Dev | 0604804A | 115 | 932 |
| LOSAT | 0604819A | 122 | 1184 |
| Meads Concepts - Dem/Val | 0603869A | 77 | 323 |
| Medical Materiel/Medical Biological Defense Equipm | 0604807A | 117 | 1054 |
| Medical Systems - Adv Dev | 0603807A | 73 | 291 |
| MEDIUM TACTICAL VEHICLES | 0604604A | 87 | 446 |
| NATO Research and Development | 0603790A | 68 | 210 |
| Night Vision Systems - Eng Dev | 0604710A | 97 | 624 |
| Night Vision Systems Advanced Development | 0603774A | 65 | 173 |
| Non Line of Sight Cannon | 0604647A | 95 | 611 |
| Non-System Training Devices - Eng Dev | 0604715A | 99 | 695 |
| Patriot PAC-3 Theater Missile Defense Acq - EMD | 0604865A | 126 | 1217 |
| Positioning Systems Development (SPACE) | 0604778A | 110 | 842 |
| RADAR DEVELOPMENT | 0604820A | 123 | 1191 |
| SCAMP Block II | 0603856A | 76 | 315 |
| Smoke, Obscurant and Target Defeating Sys-Adv Dev | 0603627A | 59 | 85 |
| Smoke, Obscurant and Target Defeating Sys-Eng Dev | 0604609A | 88 | 454 |

# Alphabetic Listing - RDT&E Volume II


| Program Element Title | PE | Line No. | Page |
|---|---|---|---|
| Soldier Support and Survivability | 0603747A | 63 | 143 |
| Tactical Exploitation System/DCGS (TIARA) | 0604766A | 107 | 807 |
| Tactical Support Development - Adv Dev (TIARA) | 0603766A | 64 | 167 |
| TACTICAL UNMANNED GROUND VEHICLE (TUGV) | 0604641A | 92 | 489 |
| Tank and Medium Caliber Ammunition | 0603639A | 60 | 100 |
| TERRAIN INFORMATION - ENG DEV | 0604716A | 100 | 708 |
| WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL | 0603782A | 67 | 202 |
| Weapons and Munitions - Adv Dev | 0603802A | 70 | 244 |
| Weapons and Munitions - Eng Dev | 0604802A | 114 | 886 |

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

***Agency:*** *Department of Defense--Military*
***Bureau:*** *Research, Development, Test, and Evaluation*




☑ Results Achieved
☐ Results Not Demonstrated
☑ Measures Adequate
☐ 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.

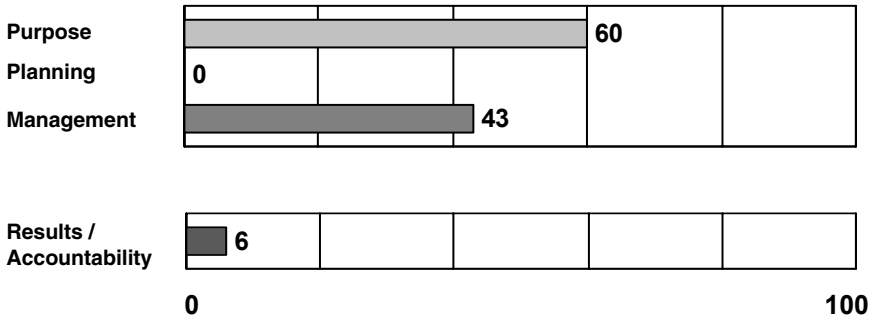
***Program Funding Level (in millions of dollars)***

* This assessments has not changed since publication in the FY 2004 Budget. For updated program funding levels, see Data File - Funding, Scores, and Ratings.

## ***Program:*** *DoD Small Business Innovation Research / Technology Transfer*

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

***Bureau:*** *Research & Development*




## ***Rating:*** *Results Not Demonstrated*

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

***Program Summary:***

The Department of Defense's (DoD's) Small Business Innovation Research and Small Business Technology Transfer programs supply funds to small businesses (in the latter case, in conjunction with non-profit research institutions) to develop products that help DoD defend the country.

The assessment found that the program:

- Provides funds to small businesses but has poor controls on unproductive spending
- Continues to provide funding to companies with track records of poor performance;
- Overestimates commercial successes resulting from Federal support by treating additional investment in the same way as product sales.

In response to these findings, the Administration will:

1. Tighten eligibility requirements for accepting proposals from companies and individuals that repeatedly fail to sell resulting products in the marketplace.
2. Change the way companies' past performance is assessed to ensure that it more closely matches the intent of the law.
3. Look for ways to budget explicitly for the program's administrative costs.
4. Seek to get highly successful awardees to enter the mainstream of Defense contracting.

| ***Key Performance Measures*** | ***Year*** | ***Target*** | ***Actual*** |
|---|---|---|---|
| Long-term Measure:<br>Revise the Commercialization Achievement Index (CAI) to eliminate counting of investments as commercialization no later than three years after receiving the first Phase II support. After that, count competitive sales receipts only. | 2004 | All | |
| | | | |
| | | | |
| | | | |
| Long-term Measure:<br>Stop funding companies with more than 5 current or past Phase II awards in the last 5 years if the company is in the bottom quartile in the CAI. | 2005 | All | |
| | | | |
| | | | |
| | | | |
| Long-term Efficiency Measure:<br>Emphasize commercialization so overall competitively awarded sales to the government (direct or indirect) from resulting products is at least equal to new R&D investment (Phases I-III), as a portfolio of prior 3-8 year investments (rolling average). | 2004 | 0.15 | |
| | 2005 | 0.2 | |
| | 2006 | 0.3 | |
| | 2007 | 0.5 | |

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

| 2003 Actual | 2004 Estimate | 2005 Estimate |
|---|---|---|
| 963 | 1,100 | 1,133 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 36790 | 108078 | 53509 | 39092 | 67428 | 85329 | 115267 | 0 | 505493 |
| TR3 | MOBILE TACTICAL HIGH ENERGY LASER (MTHEL) | 3220 | 55492 | 38609 | 24030 | 52182 | 69822 | 100343 | 0 | 343698 |
| TR4 | MISSILE DEFENSE INTEGRATION | 18562 | 38318 | 1845 | 1891 | 1959 | 2114 | 1477 | 0 | 66166 |
| TR5 | MISSILE DEFENSE BATTLELAB | 12085 | 12290 | 13055 | 13171 | 13287 | 13393 | 13447 | 0 | 90728 |
| TR6 | ARMY AIR AND MISSILE DEFENSE | 2923 | 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 4901 |

**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, Space, and Missile Defense (PEO-ASMD).

SMDC: HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (SMDC) as the Army specified proponent for space and Ground-Based Midcourse Ballistic Missile Defense and the operational integrator for Theater Missile Defense. This mission has evolved to include becoming the Army proponent for space and ground-based midcourse defense as well as the operational integrator for Global Missile Defense. SMDC has also become the Army Service Component Command (ASCC) for US Strategic Command (USSTRATCOM) and is the Army single point of contact for research, development and acquisition in support of Army Title 10 and USSTRATCOM missions. These missions include: Space, Global Missile Defense, Command, Control, Computers, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR), Information Operations, and Global Strike.

PEO-AMD: The mission of the United States Army Program Executive Office for Air, Space, and Missile Defense (PEO ASMD) 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.

Project: TR3 (Mobile Tactical High Energy Laser): This project funds a chemical laser weapon system assessment and hardware development effort for the Army Transformation.

Project TR4 funded the Force Development Integration Center (FDIC) to execute SMDC's specified proponency role for developing solutions to Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) issues.

This project also funded the production of requirements for hardware and software solutions, the interfaces with technology development, and the development of operational and system architectures.

Project TR5 funds the Space and Missile Defense Battle Lab (SMDBL) to develop warfighting concepts, focus military science and technology research, and conduct warfighting experiments associated with SMDC's ASCC mission. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of Current and Future Forces.

Project TR6 funds Integrated Composite Missile Structure.

These programs support the Current to Future transition path of the Tranformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 37233 | 51547 | 51802 |
| Current Budget (FY 2005 PB) | 36790 | 108078 | 53509 |
| Total Adjustments | -443 | 56531 | 1707 |
| Congressional program reductions | | -1028 | |
| Congressional rescissions | | | |
| Congressional increases | | 57750 | |
| Reprogrammings | -443 | -191 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 1707 |

FY04 increase due to a $57.750 million Congressional add to support various Missile Defense research and development efforts.

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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) | 3220 | 55492 | 38609 | 24030 | 52182 | 69822 | 100343 | 0 | 343698 |

**A. Mission Description and Budget Item Justification:** This project funds weapon system prototype development/integration effort for 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 high energy lasers 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 a HEL beam generator, based on deuterium fluoride chemical laser (DFCL) technologies; an acquisition, pointing, and tracking system; and a battle management system, including an organic fire control radar. The THEL device is currently being used as a 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 evaluate 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. 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 Program Executive Office, Air, Space, and Missile Defense, Short Range Air Defense (SHORAD) Project Office in Huntsville, AL. This system supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | 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 and beam control 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 (FY03 - FY05)<br>o Conduct risk reduction and design verification testing (FY03 - FY04)<br>o Conduct static and dynamic lethality tests against extended threat set (FY03 - FY04)<br>o Select components and complete prototype preliminary design and evaluation (FY04)<br>o Complete prototype final design and conduct long lead item acquisition and begin fabrication (FY05)<br>o Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) ($1,553K in FY 2004) | 3220 | 55492 | 38609 |
| Totals | 3220 | 55492 | 38609 |

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

Israel provided $19.4M under a Foreign Military Sales Case in FY 03 to support this effort. Under the terms of an amendment to the THEL ACTD Memorandum of Agreement, Israel is expected to match the Army's MTHEL funding on a 50/50 basis. If matching funding from Israel changes from this assumption, actions will be taken to reduce the current scope of work. In FY03, Congress added $15M for the MTHEL effort in PE 0603308A adding to the $3.220M provided by the Army, which initiated risk reduction/design verification testing and static dynamic lethality tests against an extended threat set using the existing MTHEL Testbed at HELSTF. In FY04, the MTHEL effort will complete risk reduction/design verification tests and continue static/dynamic lethality tests against an extended threat set using the existing MTHEL Testbed at HELSTF. In FY04, Congress added $17.0 million for the MTHEL effort.

**C. Acquisition Strategy:** The MTHEL acquisition strategy is to develop and integrate an operational weapon prototype using demonstrated chemical laser, advanced beam control and supporting technologies into both the Israeli and US Army existing architectures. Based on the detailed System Engineering Trade Studies, and static and dynamic lethality testing, the MTHEL product office in consultation with Israel Ministry of Defense Product Office has selected those demonstrated technologies that will be integrated into a mobile tactical high energy laser system to accomplish a common set of missions. The fabrication, integration, and functional testing of the MTHEL is expected to take approximately 3 years, followed

by two years of demonstration/validation testing to enable the Army and Israel to identify key concepts of operation (CONOPS); tactics, techniques, and procedures (TTPs); and the doctrine, training, leader development, organizations, materiel, personnel, and facilities (DTLOMPF) required to effectively integrate operational HEL weapon systems.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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/Design Verification Tests | CPFF | NGST | 7200 | 2783 | 1Q | 32784 | 1-3Q | 30000 | 2Q | Continue | 72767 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7200 | 2783 | | 32784 | | 30000 | | Continue | 72767 | 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(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development Test | CPFF | NGST | 0 | 0 | | 8000 | 1-3Q | 0 | | Continue | 8000 | 0 |
| b . Government Furnished Fuel / Range Costs | | | 0 | 0 | | 5400 | | 0 | | Continue | 5400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 13400 | | 0 | | Continue | 13400 | 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 | PEOASMD/ Hsv, AL | Various | 0 | 245 | | 5325 | | 4746 | 1Q | Continue | 10316 | 0 |
| b . SETA (Multiple) | CPFF | Various | 0 | 192 | 1Q | 3983 | 1Q | 3863 | 1Q | Continue | 8038 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 437 | | 9308 | | 8609 | | Continue | 18354 | 0 |
| Project Total Cost: | | | 7200 | 3220 | | 55492 | | 38609 | | Continue | 104521 | 0 |

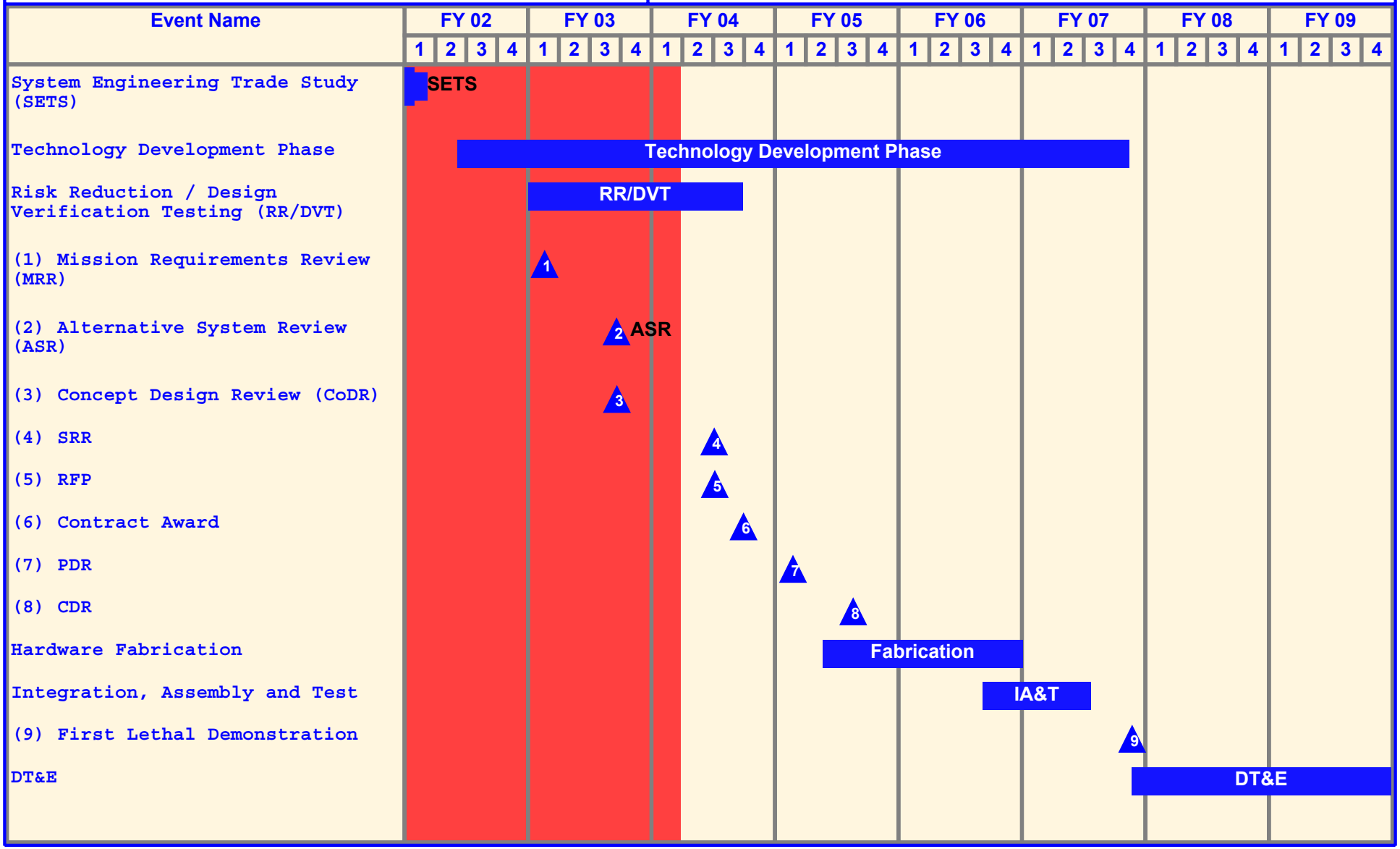
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**TR3**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Technology Development Phase | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Risk Reduction/Design Verification Testing (RR/DVT) | 1-4Q | 1-3Q | | | | | |
| Mission Requirements Review (MRR) | 1Q | | | | | | |
| Alternative System Review (ASR) | 3Q | | | | | | |
| Concept Design Review (CoDR) | 3Q | | | | | | |
| System Requirement Review (SRR) | | 2Q | | | | | |
| Request For Proposal (RFP) | | 2Q | | | | | |
| Contract Award | | 3Q | | | | | |
| Preliminary Design Review (PDR) | | | 1Q | | | | |
| Critical Design Review (CDR) | | | 3Q | | | | |
| Hardware Fabrication | | | 2-4Q | 1-4Q | | | |
| Integration, Assembly and Test (IA&T) | | | | 3-4Q | 1-3Q | | |
| First Lethal Demonstration | | | | | 4Q | | |
| Developmental Test and Evaluation (DT&E) | | | | | 4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603305A - Army Missile Defense Systems Integration** | **TR4** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| TR4 | MISSILE DEFENSE INTEGRATION | 18562 | 38318 | 1845 | 1891 | 1959 | 2114 | 1477 | 0 | 66166 |

**A. Mission Description and Budget Item Justification:** HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (SMDC), the Army specified proponent for Ground-Based Midcourse Ballistic Missile Defense, and the Army 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, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) solutions to realize those capabilities. Prior to FY 2003, and in FY 2004, these requirements are reflected in Program Element 0603308A, Project 990.

SMDC'S Battle Lab will continue the development of an Advanced Tactical Operations Center (ATOC) that incorporates technology required to provide essential space based Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities to maneuver forces and lower echelon commands. New and emerging C4ISR technology will significantly improve operational capability, incorporate wireless, and hybrid electric technology, reduce hardware cost, and identify and quantify potential threats to permit the War fighter to improve his decision-making processes. This technology will present an integrated picture to the Warfighter based upon real time intelligence data integrated into a common database for display and dissemination and will enable the Warfighter to make informed decisions in response to threats. This command post will be tested with Brigade level forces n various maneuver scenarios. This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue efforts to integrate concepts and DOTMLPF solutions for Army missile defense capabilities, across the four domains of missile defense (passive defense, active defense, attack operations and battle management). Represent Army positions and defend Army equities in Joint/DoD and inter-Service activities. | 5093 | 0 | 1845 |
| Includes FY04 Congressional Adds for Kodiak Range Upgrades), Aero-Acoustics Test Facility, Dielectric Enhanced Sensor System, Extended Range Interceptor Program, Advanced Battery Technology, Next Generation Passive Surveillance Systems, Radar Power Technology, Next Generation Hardware-in-the-loop, Vertical Integration for Missile Defense Surveillance Data, Joint Wavelet Transform-Based Hyperspectral Data Process, Ballute Technology Dev, Nanoscience Initiative, Analysis Environment, Component Interated Modeling and Simulation Test,Global Infrasound Monitoring of Atmosphere. | 13469 | 32887 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Includes FY04 Congressional Add for Advanced Tactical Operations Center. Integration of tactical radios, video graphics display, wireless communication networks, and power distribution and handling systems into the hybrid vehicle. Fabrication of hybrid vehicle base Test Bed. Quality assurance of Test Bed. Component and subsystem testing. Field testing and experimentation with Air and Missile Defense Battle Lab. Data reduction, analysis, and reporting. | 0 | 4432 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 999 | 0 |
| Totals | 18562 | 38318 | 1845 |

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

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

ATOC - Utilize existing cost plus fixed fee contract competitively awarded via a Broad Area Announcement to Small Business Contractor (Brown International).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**TR4**

| 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 | | Various | 0 | 13469 | 2-4Q | 33886 | 2-4Q | 0 | | 0 | 47355 | 0 |
| b . Integration and testing of Wireless ATOC on a Hybrid Electric Vehicle | CPFF | Brown International, AL | 0 | 0 | | 4432 | 3-4Q | 0 | | 0 | 4432 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 13469 | | 38318 | | 0 | | 0 | 51787 | 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 . Govt support & support contracts | Various | Various | 0 | 5093 | 1-4Q | 0 | | 1845 | 1-4Q | 0 | 6938 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 5093 | | 0 | | 1845 | | 0 | 6938 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**TR4**

| 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 | 18562 | | 38318 | | 1845 | | 0 | 58725 | 0 |

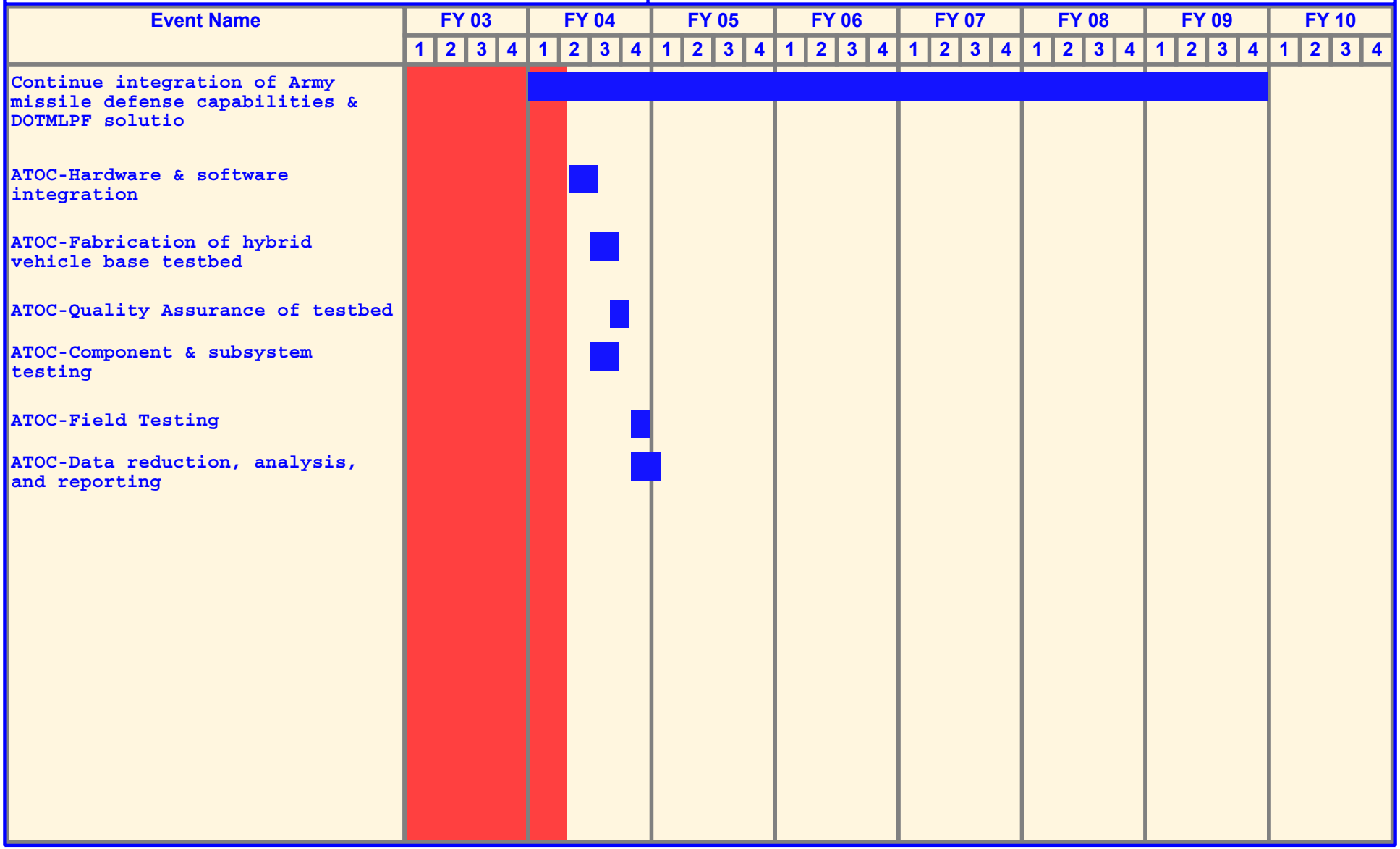
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**TR4**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603305A - Army Missile Defense Systems Integration** | **TR4** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Continue integration of Army missile defense capabilities and DOTMLPF solutions for Future Force | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| ATOC - Hardware & software Integration | | 2-3Q | | | | | |
| ATOC - Fabrication of hybrid vehicle base testbed | | 3Q | | | | | |
| ATOC - Quality assurance of testbed | | 3Q | | | | | |
| ATOC - Component and subsystem testing | | 3Q | | | | | |
| ATOC - Field testing | | 4Q | | | | | |
| ATOC - Data reduction, analysis, and reporting | | 4Q | 1Q | | | | |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 12085 | 12290 | 13055 | 13171 | 13287 | 13393 | 13447 | 0 | 90728 |

**A. Mission Description and Budget Item Justification:** This project funds the delivery of innovations to the warfighter in the Space and Missile Defense Command mission areas of Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR). The innovations are provided through prototyping, operational analysis and experimentation to support the Current and Future Forces. These efforts were funded in PE 0603308A prior to FY03. The project supports the Army Service Component Command responsibilities for integration of Army capabilities into U.S. Strategic Command. This system supports Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Experiments/Advanced Prototype components into Command and Control (C2) Systems - Experiments assessed/exploited Doctrine, Organizations, Training, Material, Leadership and Education, Personnel and Facilities (DOTMFLPF) issues. Participated in major Army and Joint Experiments integrating space, missile defense, IO, GS and C4ISR organizational/operational concepts into the Army's TCP. Assessed space, missile defense, IO, GS and C4ISR impacts on doctrine and materiel. Fourteen experiments were completed in FY03 or scheduled for FY04. These include Pinnacle Impact, Total Defender; Unified Quest; Unified Course, Unit of Action-Concept Experimentation Progrram; Northern Edge; Army Transformation Experiment; Joint Experimentation Exercise and Joint Project Optic Windmill. The Future Operation Capability (FOC) test bed integrates commercial state-of-the-art technologies into C4ISR experiments. Prototype versions of the FOC supported operations Iraq Freedom and Homeland Defense. | 7594 | 7319 | 8041 |
| Operational Analysis/Tools, Modeling and Simulation (M&S)- Studies and Analysis included operational assessments of concepts, doctrine, organizations, technologies and tactics. Also examined Future Combat system/Transformation issues for space and missile defense including Space Control, Army Equities in Space - Intelligence Surveillance and Reconnaissance (AEIS-ISR, Joint Ground Tracking, ISR Integration and targeting. Tools and M&S accomplishments included federation of M&S for experimentation and operational assessments, space and missile defense systems doctrine and capabilities placed into functional description of the battlespace and the maintenance of M&S tools. | 4491 | 4745 | 5014 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 226 | 0 |
| Totals | 12085 | 12290 | 13055 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 6129 | | 5164 | | 5638 | | Continue | 16931 | 0 |
| b . Govt Support and Support Contracts | MIPR/Allot | Various, AL , CO & NM | 0 | 5956 | | 7126 | | 7417 | | Continue | 20499 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 12085 | | 12290 | | 13055 | | Continue | 37430 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 12085 | | 12290 | | 13055 | | Continue | 37430 | 0 |

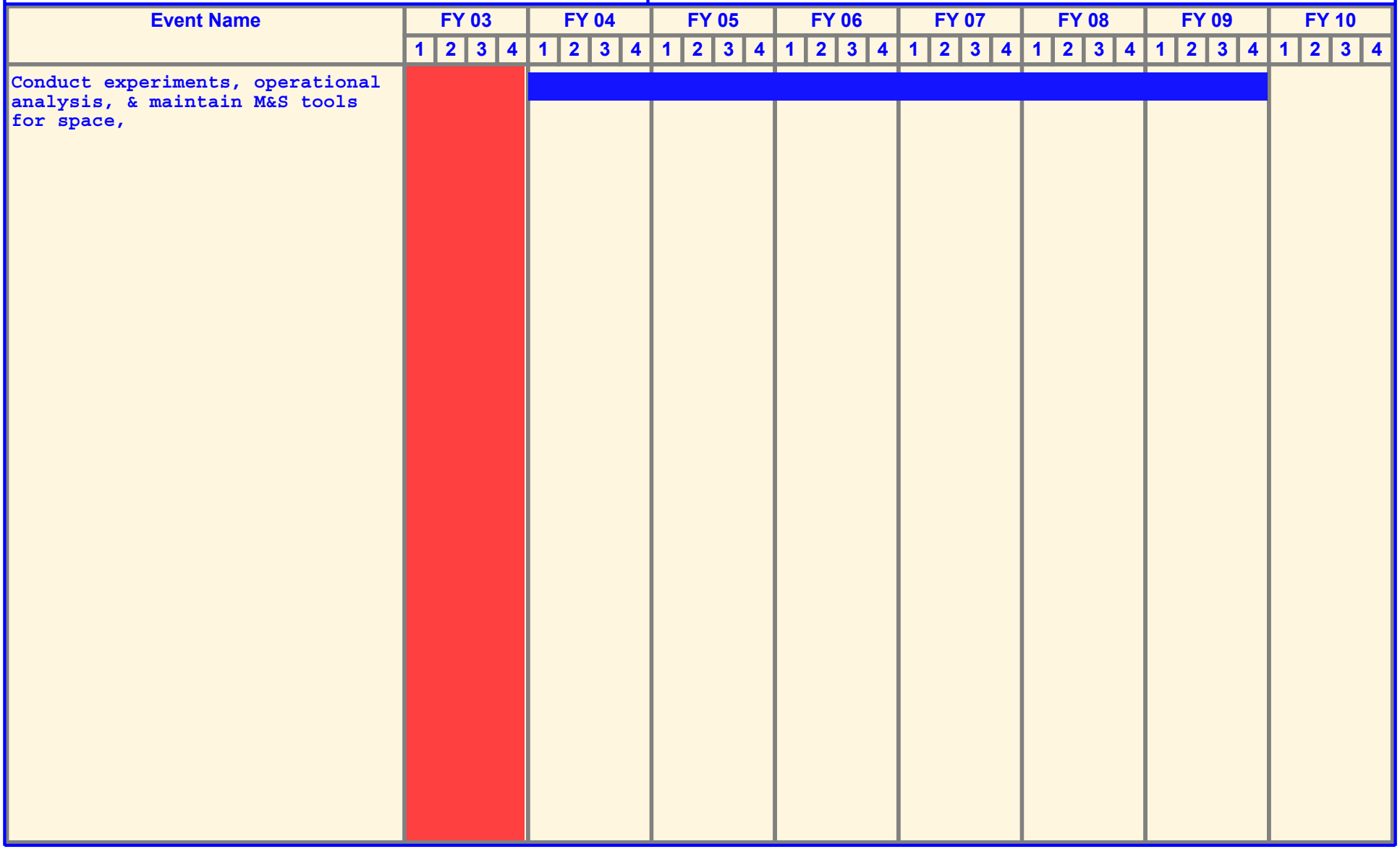
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**TR5**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | 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-2A Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603305A - Army Missile Defense Systems Integration** | **TR6** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| TR6 | ARMY AIR AND MISSILE DEFENSE | 2923 | 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 4901 |

**A. Mission Description and Budget Item Justification:** FY03: The Joint Distributed Engineering Plant (JDEP) is a Navy 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).

FY04: This project funds effort to produce a high performance and cost efficient kill vehicle mid-body frame utilizing state of the art co-processed composites technology that will achieve flight qualification to support THAAD near-term technology insertion objectives.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Funding for FY02 contained in PE 0603308A, Proj 99A | 0 | 0 | 0 |
| JDEP test Event Participation | 1596 | 0 | 0 |
| Communications Equipment | 730 | 0 | 0 |
| Operational Center Support: Provides support during JDEP testing and pre-event simulations | 597 | 0 | 0 |
| Includes FY04 Congressional Add for Integrated Composite Missile Structure | 0 | 1978 | 0 |
| Totals | 2923 | 1978 | 0 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**TR6**

| 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 | Various | Various | 0 | 0 | | 1978 | 2-3Q | 0 | | 0 | 1978 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1978 | | 0 | | 0 | 1978 | 0 |

Remarks: Fy02 costs are reflected in PE 0603308A, Proj 99A

| 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, contractor support and communications support | MIPR, 1095 | Various | 0 | 1836 | 1-4Q | 0 | | 0 | | 0 | 1836 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1836 | | 0 | | 0 | | 0 | 1836 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**TR6**

| 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 and equipment costs | 1095, MIPR | Various Government Agencies | 0 | 1087 | 1-4Q | 0 | | 0 | | 0 | 1087 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1087 | | 0 | | 0 | | 0 | 1087 | 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 | 2923 | | 1978 | | 0 | | 0 | 4901 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 56974 | 35532 | 4871 | 8281 | 11850 | 11712 | 15843 | 0 | 247076 |
| 978 | SPACE CONTROL | 940 | 974 | 968 | 970 | 969 | 4856 | 6827 | 0 | 18936 |
| 988 | RANGE UPGRADES | 0 | 8010 | 0 | 0 | 0 | 0 | 0 | 0 | 8010 |
| 990 | SPACE AND MISSILE DEFENSE INTEGRATION | 50491 | 26548 | 3903 | 7311 | 10881 | 6856 | 9016 | 0 | 212647 |
| 99A | ARMY AIR AND MISSILE DEFENSE | 5543 | 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 Current to Future 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.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 57429 | 9632 | 9649 |
| Current Budget (FY 2005 PB) | 56974 | 35532 | 4871 |
| Total Adjustments | -455 | 25900 | -4778 |
| Congressional program reductions | | -337 | |
| Congressional rescissions | | | |
| Congressional increases | | 26300 | |
| Reprogrammings | -455 | -63 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -4778 |

Change Summary Explanation:
In FY 2004 Congress added $26.3 million for various missile defense research and development efforts: P3 Power System ($2.0 million), Supercluster Distributed Memory Technology ($1.0 million), Eagle Eyes Research Program ($1.4 million), Low Cost Interceptor ($11.0 million), Radar Power Technology ($2.8 million) and Kodiak Range Safety & Instrumentation ($8.1 million).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603308A - Army Missile Defense Systems Integration (Dem/Val)** | **988** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 988 RANGE UPGRADES | 0 | 8010 | 0 | 0 | 0 | 0 | 0 | 0 | 8010 |

**A. Mission Description and Budget Item Justification:** This project funds necessary range support for Department of Defense flight tests at Kodiak Island, Alaska. The Kodiak Launch Facility Complex is designed to provide an opportunity for demonstrating various elements potentially suitable for incorporation into ballistic missile defense system development. This project supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue range support activities | 0 | 8010 | 0 |
| Totals | 0 | 8010 | 0 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**988**

| 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 . Range Support | | Alaska Aerospace Development Corp., Alaska | 0 | 0 | 2Q | 7465 | | 0 | | 0 | 7465 | 0 |
| b . Government support and support contracts | Various | Huntsville, AL | 0 | 0 | 2-4Q | 545 | | 0 | | 0 | 545 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 8010 | | 0 | | 0 | 8010 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**988**

| 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 | | 8010 | | 0 | | 0 | 8010 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603308A - Army Missile Defense Systems Integration (Dem/Val)** | **988** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Coordinate Range Support | | 2-4Q | | | | | |

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

**February 2004**

| 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 2003 Actual | 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 | 50491 | 26548 | 3903 | 7311 | 10881 | 6856 | 9016 | 0 | 212647 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | 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. | 481 | 7696 | 3903 |
| Includes Congressional Adds for Low Cost Interceptor Flight Test Demo, MTHEL (FY03 Only), 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, Supercluster Distributed Memory Technology, and Radar Power Technology. | 50010 | 18200 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 652 | 0 |
| Totals | 50491 | 26548 | 3903 |

**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(R3)

**February 2004**

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 | Various | Various | 36610 | 50010 | 2-3Q | 17901 | | 0 | | 0 | 104521 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 36610 | 50010 | | 17901 | | 0 | | 0 | 104521 | 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 . GOVT SUPPORT & SUPPORT CONTRACTS | VARIOUS | VARIOUS | 4118 | 481 | 1-4Q | 8647 | 1-4Q | 3903 | 1-4Q | Continue | 17149 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4118 | 481 | | 8647 | | 3903 | | Continue | 17149 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 50491 | | 26548 | | 3903 | | Continue | 121670 | 0 |

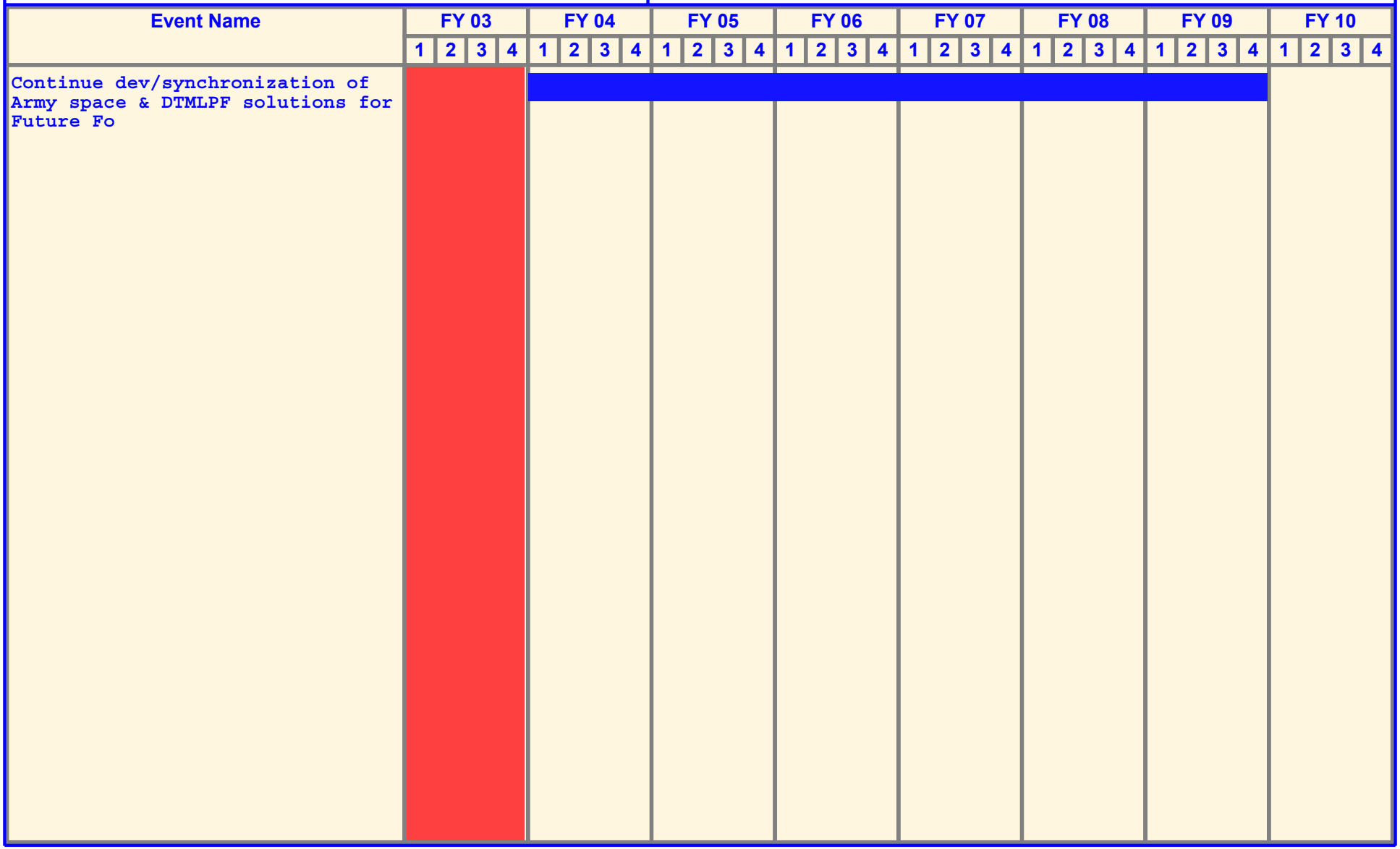
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**990**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Continue development/synchronization of Army space and DTMLPF solutions for Future Force capabilitie | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 121489 | 91713 | 87400 | 116572 | 99998 | 71531 | 0 | 588703 |
| E88 | INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE (CA) | 0 | 42421 | 0 | 0 | 0 | 0 | 0 | 0 | 42421 |
| S24 | ARMY SIAP SYSTEMS ENGINEERING | 0 | 14605 | 30285 | 35189 | 51996 | 57951 | 50192 | 0 | 240218 |
| S25 | ARMY SIAP OPERATIONAL INTEGRATION | 0 | 2784 | 2859 | 2928 | 3006 | 2913 | 2910 | 0 | 17400 |
| S26 | ARMY SIAP IMPLEMENTATION | 0 | 10709 | 15557 | 26181 | 40233 | 16508 | 873 | 0 | 110061 |
| S27 | JOINT DISTRIBUTED ENGINEERING PLANT (JDEP) | 0 | 3652 | 3344 | 3416 | 3401 | 0 | 0 | 0 | 13813 |
| S32 | JOINT SIAP SYSTEM ENGINEERING | 0 | 47318 | 39668 | 19686 | 17936 | 22626 | 17556 | 0 | 164790 |

**A. Mission Description and Budget Item Justification:** This Program Element provides funding for integration of Army Air,Space and Missile Defense (TAMD)System of systems. The Army System of Systems comprises a broad range of systems acquired individually to support complementary missions. To provide this integrated capability, the Program Executive Office, Air, Space and Missile Defense (PEO ASMD) 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. The Cruise Missile Defense initiative was approved by the Vice Chief of Staff of the Army in 2003. This program will accelerate the fielding and development of systems to counter the threat of Land Attack Cruise Missiles. The Integrated Fire Control effort will provide for the engineering and development of the battle management algorithms necessary to support and Integrated Fire Control. IFC will provide the integrated capability necessary to counter emering CM threat, through the integration of ground based weapons with elevated sensors and the management of sensor, weapon and network resources. The IFC effort will begin in FY04. This Program Element will integrate requirements within the Army and address joint needs. This program supports the current to future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 79959 | 71887 |
| Current Budget (FY 2005 PB) | 0 | 121489 | 91713 |
| Total Adjustments | 0 | 41530 | 19826 |
| Congressional program reductions | | -1155 | |
| Congressional rescissions | | | |
| Congressional increases | | 42900 | |
| Reprogrammings | | -215 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 19826 |

Increase in FY04 funding is a result of congressional adds for the following:

Future Army Attack and Missile Defense Systems (FAAMDS) - $3.0 million
Adaptive Integrated Fire Control (IFC) Technology - $1.8 million
Army Architecture Analysis (A3) Program - $5.0 million
Army Allen Airfield Upgrades - $ 33.1 million

Increase in FY05 is a result of Cruise Missile Defense (CMD) Initative. Funding supports the Integrated Fire Control (IFC) capability which is an integral part of CMD.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603327A - Air and Missile Defense Systems Engineering** | **E88** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| E88 | INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE (CA) | 0 | 42421 | 0 | 0 | 0 | 0 | 0 | 0 | 42421 |

**A. Mission Description and Budget Item Justification:** Funding in this project supports the following efforts:

Science and Technology Analysis and Integration - This project will provide science and technology program development planning, programming and execution in support of air, space and missile defense system engineering. This will allow for development of technology roadmaps, technology insertion plans, schedules and supporting documentation; develop and coordinate technology transition agreements; and facilitate technology transfer from government to industry.

Cruise Missile Defense/Integrated Fire Control - This project will provide for development of Integrated Fire Control Architecture. IFC will provide network centric air defense protection of high value assets, operational flexibility through wide area battle coordination and counters stressing threats at extended ranges.

Army Space Architectural Analysis - PEO ASMD will conduct activities that will define the Army Space Architecture through exploration of alternatives in an integrated simulation environment. An additional activity will develop functions for the exploitation and further integration of Space assets and information with other AMD missions and Army missions.

Arny Allen Airfield Upgrades - This project is required to improve existing airfield facilities at AAAF to provide MDA with improved runway capabilities to enable the safe transport of GBI interceptors and other critical equipment to Fort Greely using C-17, 747 and/or C-5 aircraft. *Note: The Army is initiating a reprogramming request to move funds to Defense-Wide RDTE for proper execution of this effort.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Science and Technology Analysis and Integration Project | 0 | 2880 | 0 |
| Cruise Missile Defense – Integrated Fire Control | 0 | 1720 | 0 |
| Army Space Architectural Analysis | 0 | 4880 | 0 |
| Army Allen Airfield (AAAF) Upgrades | 0 | 31693 | 0 |
| SBIR/STTR | 0 | 1248 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 0 | 42421 | 0 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**E88**

| 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 . Science and Technology Analysis and Integration Project | Various | | 0 | 0 | 1-4Q | 2980 | | 0 | | 0 | 2980 | 0 |
| b . Cruise Missile Defense – Integrated Fire Control | Various | | 0 | 0 | 1-4Q | 1780 | | 0 | | 0 | 1780 | 0 |
| c . Army Space Architectural Analysis | Various | | 0 | 0 | 1-4Q | 4950 | | 0 | | 0 | 4950 | 0 |
| d . Army Allen Airfield (AAAF) Upgrades | Various | | 0 | 0 | 1-4Q | 32711 | | 0 | | 0 | 32711 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 42421 | | 0 | | 0 | 42421 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**E88**

| 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 | | 42421 | | 0 | | 0 | 42421 | 0 |

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

**February 2004**

| 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 2003 Actual | 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 | 14605 | 30285 | 35189 | 51996 | 57951 | 50192 | 0 | 240218 |

**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. Army Systems Engineering effort has three main elements: 1) ensure persistent critical interoperability deficiencies are identified and fixed; 2) support the development and evaluation of the Joint SIAP System Engineering Organization's (JSSEO) SIAP Integrated Architecture Behavior Model; and 3) provide management, staffing and infrastructure for the JSSEO and Army SIAP programs.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Program Management / Systems Engineering (SIAP) | 0 | 4812 | 3335 |
| Identify and Fix Critical Interoperability Deficiencies (SIAP) | 0 | 2212 | 1362 |
| Development and Evaluation of SIAP Integrated Architecture Behavior Model (SIAP) | 0 | 7172 | 5562 |
| Integrated Fire Control for CMD | 0 | 0 | 20026 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 409 | 0 |
| Totals | 0 | 14605 | 30285 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| PE 643327, Project S25, SIAP Operational Integration | 0 | 2784 | 2859 | 2928 | 3006 | 2913 | 2910 | 0 | 17400 |
| PE 643327, Project S26, SIAP Implementation | 0 | 10709 | 15557 | 26181 | 40233 | 16508 | 873 | 0 | 110061 |
| PE 643327, Project 32, Joint SIAP Systems Engineering | 0 | 47318 | 39668 | 19686 | 17936 | 22626 | 17556 | 0 | 164790 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 and evaluation of the SIAP IABM | Various | Varioius | 0 | 0 | | 7771 | 1-4Q | 5562 | 1-4Q | Continue | 13333 | 0 |
| b . Identification and development of fixes for critical interoperability deficiencies | Various | | 0 | 0 | | 2169 | 1-4Q | 1362 | 1-4Q | Continue | 3531 | 0 |
| c . Begin development of Integrated Fire Control Capability in support of Cruise Missile Defense | Various | Various | 0 | 0 | | 0 | | 20276 | 1-4Q | Continue | 20276 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 9940 | | 27200 | | Continue | 37140 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**S24**

| 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, Army JSSEO Staff and Modeling and Simulation | Various | various | 0 | 0 | | 4665 | 1-4Q | 3085 | 1-4Q | Continue | 7750 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4665 | | 3085 | | Continue | 7750 | 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(R3)

**February 2004**

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

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

PROJECT
**S24**

| 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 | | 14605 | | 30285 | | Continue | 44890 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | 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 2004**

| 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 2003 Actual | 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 | 2784 | 2859 | 2928 | 3006 | 2913 | 2910 | 0 | 17400 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue efforts for coordinating SIAP requirements with TRADOC Directorates of Combat Developments (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. Continue working Blue Force Laydowns for Common Reference Scenarios for analysis. This project was funded in PE 0603305A TR 4 in FY03. | 0 | 2706 | 2859 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 78 | 0 |
| Totals | 0 | 2784 | 2859 |

| **B. Other Program Funding Summary** | 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 | 18562 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18562 |
| PE 643327, Project S24, Army SIAP Systems Engineering | 0 | 14605 | 30285 | 35189 | 51996 | 57951 | 50192 | 0 | 240218 |
| PE 643327, Project S26, Army SIAP Implementation | 0 | 10709 | 15557 | 26181 | 40233 | 16508 | 873 | 0 | 110061 |
| PE 643327, Project S32, Joint SIAP Systems Engineering | 0 | 47318 | 39668 | 19686 | 17936 | 22626 | 17556 | 0 | 164790 |

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 2784 | 1-4Q | 2859 | 1-4Q | Continue | 5643 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2784 | | 2859 | | Continue | 5643 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 2784 | | 2859 | | Continue | 5643 | 0 |

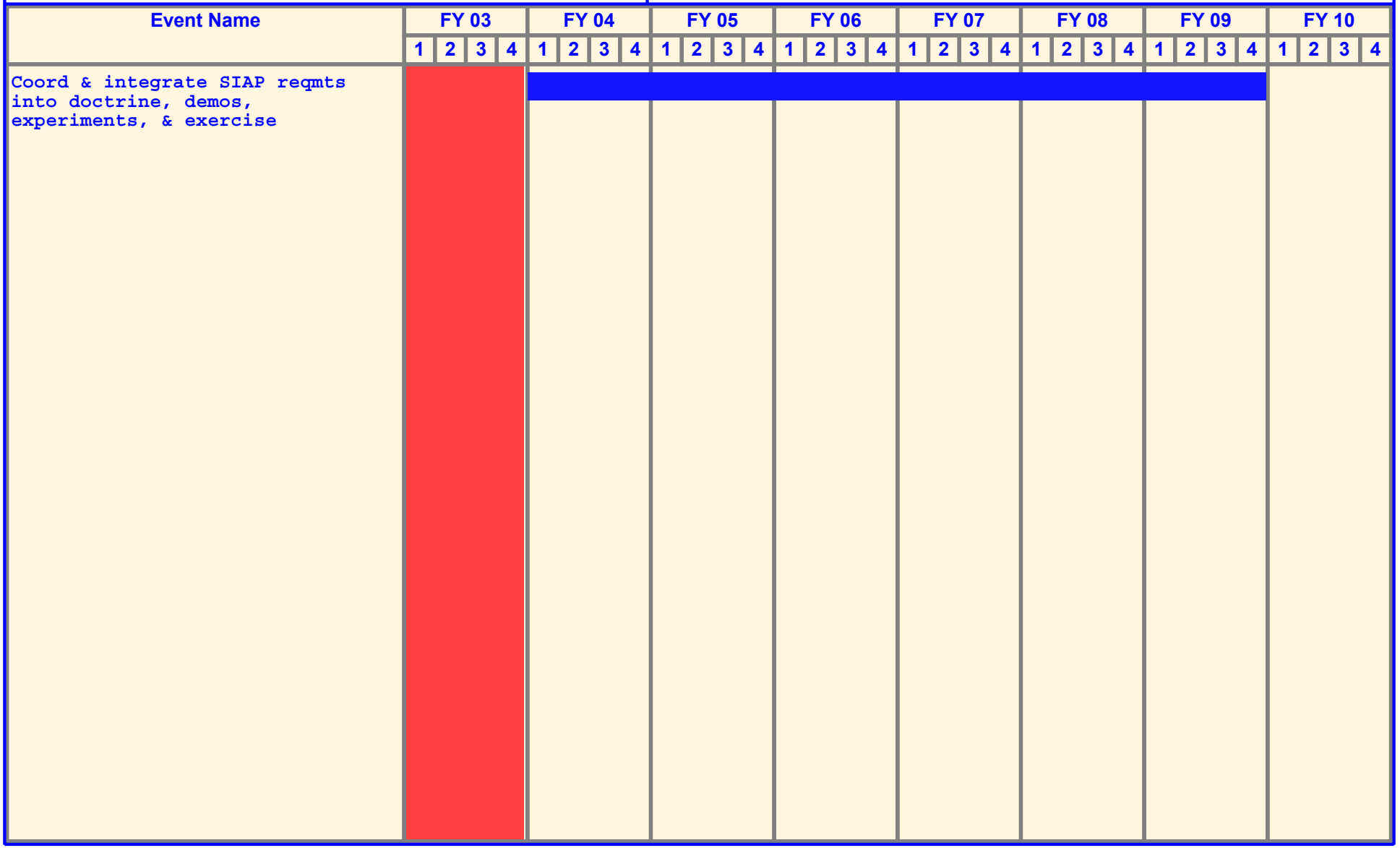
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**S25**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail** | 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 2004**

| 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 2003 Actual | 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 | 10709 | 15557 | 26181 | 40233 | 16508 | 873 | 0 | 110061 |

**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 Joint SIAP System Engineering Organization (JSSEO) has adopted a business model focused on the development of an Integrated Architecture Behavior Model (IABM) as the solution for fixing interoperability deficiencies and delivering future SIAP capabilities. The IABM is being jointly developed by the JSSEO and the Services, with the first delivery scheduled for FY05. Initial deliveries will be implemented in selected Army systems to evaluate the emerging IABM. Additionally, until the high risk in the IABM approach has been adequately mitigated, the identification and implementation of near-term fixes to critical interoperability deficiencies (such as those observed during Operation Iraqi Freedom) will continue to be maintained as a risk mitigation program.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Perform engineering and analysis to identify and prioritize critical interoperability deficiencies, design and develop engineering fixes for high priority deficiencies, and begin implementation of those fixes. | 0 | 4654 | 7289 |
| Support the development, evaluation and implementation of the JSSEO IABM. Prepare selected Army system for implementation of IABM Configuration 05. | 0 | 5755 | 8268 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 300 | 0 |
| Totals | 0 | 10709 | 15557 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Army SIAP Systems Engineering (S24) | 0 | 14605 | 30285 | 35189 | 51996 | 57951 | 50192 | 0 | 240218 |
| Army Operational Integration (S25) | 0 | 2 | 2859 | 2928 | 3006 | 2913 | 2910 | 0 | 14618 |
| Joint SIAP Systems Engineering (S32) | 0 | 47318 | 39668 | 19686 | 17936 | 22626 | 17556 | 0 | 164790 |

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Critical Interoperability Deficiencies Engineering and Implementation | Various | Various Army Organizations | 0 | 0 | | 5508 | 1-4Q | 7289 | 1-4Q | 0 | 12797 | 0 |
| b . SIAP IABM Engineering and Implementation | Various | | 0 | 0 | | 5201 | 1-4Q | 8268 | 4Q | 0 | 13469 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 10709 | | 15557 | | 0 | 26266 | 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(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 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 | | 10709 | | 15557 | | 0 | 26266 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | 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 2004**

| 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 2003 Actual | 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 | 3652 | 3344 | 3416 | 3401 | 0 | 0 | 0 | 13813 |

**A. Mission Description and Budget Item Justification:** The Joint Distributed Engineering Plant (JDEP) is a Navy concept expanding their land-based Distributed Engineering Plant (DEP) 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 telecommunication network(s) and High Level Architecture (HLA) 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| JDPE Test Event Participation | 0 | 1004 | 1370 |
| Communication Equipment | 0 | 623 | 696 |
| Operational Center Support: Support during JDEP testing and pre-event simulations. | 0 | 1923 | 1278 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 102 | 0 |
| Totals | 0 | 3652 | 3344 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Development of Sim/Stim for JDEP | Various | Various Army Organizations | 0 | 0 | | 1537 | 1-4Q | 1000 | 1-4Q | 0 | 2537 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1537 | | 1000 | | 0 | 2537 | 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 . DISN/LES and equipment | | | 0 | 0 | | 685 | 1-4Q | 696 | 1-4Q | Continue | 1381 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 685 | | 696 | | Continue | 1381 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . JDEP Test Event Support | | | 0 | 0 | | 1150 | 1-4Q | 1348 | 1-4Q | Continue | 2498 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1150 | | 1348 | | Continue | 2498 | 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 . Army management of JDEP activity | ELMCO | PEO ASMD | 0 | 0 | 1-4Q | 280 | | 300 | 2-4Q | 0 | 580 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 280 | | 300 | | 0 | 580 | 0 |
| Project Total Cost: | | | 0 | 0 | | 3652 | | 3344 | | Continue | 6996 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | 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 2004**

| 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 2003 Actual | 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 | 47318 | 39668 | 19686 | 17936 | 22626 | 17556 | 0 | 164790 |

**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 Joint SIAP System Engineering Organization (JSSEO) is developing the tools and processes and performing the system engineering that is identifying cost effective fixes to tactical data link systems. 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. The resulting prioritized fixes will be addressed in incremental engineering blocks and integrated into design architecture for an improved SIAP. 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 JROC, implementation of these recommended changes are the responsibility of the affected Service programs. Products are the blocks engineering and the integrated architecture that provides the framework for service implementation.

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 correlelation/decorrelation, formation tracking/correlation, identification taxonomy and symbology, and an ID conflict resolution matrix.

Block 1 is addressing a set of Joint Data Net (JDN) deficiencies approved by United States Joint Forces Command to provide warfighter benefits that can be implemented in the near- to mid-term. The capabilities 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 capabilities 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 is captured in an Integrated Architecture Behavior Model (IABM) to give engineers a tool (with operations context and supporting engineering detail) to make decisions about what design functions produce the most cost effective solution 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 current and future combat systems.

Starting in FY04, Joint SIAP funding was transitioned from a Navy Program Element to the Army. The Navy provided funds for the effort during Fiscal Years 2000-2003.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Block 1 - (FY04) Implementation of Block 1 recommendation in Service systems begins. Monitor and assist the Services in the implementation of Block 1 fixes (Further reduce dual tracks, Improve combat identification capabilities, Improve TBMD performance, complete residual engineering, help with service implementation and Improve data sharing). 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. The math and analysis developed under Block 1 feeds into the Integrated Architecture Behavior Model (IABM). | 0 | 5299 | 1741 |
| 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. The math and analysis developed under Block 1 feeds into the Integrated Architecture Behavior Model (IABM). Products include Host implementation consistency, Database consistency. Network Latency Reduction, Ground System interfaces and Missile Defense performances enhances. | 0 | 10685 | 12191 |
| Architecture - (FY04) 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 IABM to increase functional scope and begin aligning with other tactical data functions. (FY05) Complete critical development items 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. Configuration 05 of the IABM will be delivered in Sept. 2005 | 0 | 16639 | 15672 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Systems Engineering Tools and Analysis - (FY04) Continue to evaluate the technical and warfighting benefits of the SIAP Block engineering. 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 architecture conformance certification. Analyze and synchronize implementation opportunities with respect to individual Services and weapon systems. Plot predicted and fielded Joint Tactical Data Line performance capabilities 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. Analyze and synchronize implementation opportunities. Prioritized products include improving Common Time Reference, Data Registration, Tracking Management, Combat identification capabilities, TBMD Debris Reporting, TBMD Data Correlation, TBMD Impact Point Prediction, LINK 16 Throughput and Multi-ink Translation to engage on remote and coordinate engagement data. | 0 | 8850 | 6366 |
| 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. | 0 | 4520 | 3698 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 1325 | 0 |
| Totals | 0 | 47318 | 39668 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 1 | MIPR | Army - PEO AMD - Huntsville | 0 | 0 | | 795 | 1-4Q | 261 | 1-4Q | Continue | 1056 | 0 |
| b . Block 1 | MIPR | Navy, Arlington, Virigina | 0 | 0 | | 795 | 1-4Q | 261 | 1-4Q | Continue | 1056 | 0 |
| c . Block 1 | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 795 | 1-4Q | 261 | 1-4Q | Continue | 1056 | 0 |
| d . Block 1 | MIPR | Marine MARCOR, Quantico, Virginia | 0 | 0 | | 265 | 1-4Q | 87 | 1-4Q | Continue | 352 | 0 |
| e . Block 1 | Various | Various | 0 | 0 | | 4025 | 1-4Q | 871 | 1-4Q | Continue | 4896 | 0 |
| f . Block 2 | MIPR | Army - PEO AMD - Huntsville, Alabama | 0 | 0 | | 1595 | 1-4Q | 1828 | 1-4Q | Continue | 3423 | 0 |
| g . Block 2 | MIPR | Navy, Arlington, Virginia | 0 | 0 | | 1595 | 1-4Q | 1828 | 1-4Q | Continue | 3423 | 0 |
| h . Block 2 | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 1595 | 1-4Q | 1828 | 1-4Q | Continue | 3423 | 0 |
| i . Block 2 | MIPR | Marine MARCOR, Quanitico, VA | 0 | 0 | | 532 | 1-4Q | 611 | 1-4Q | Continue | 1143 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 2 | Various | Various | 0 | 0 | | 5317 | 1-4Q | 6096 | 1-4Q | Continue | 11413 | 0 |
| k . Architecture | MIPR | Army - PEO AMD, Huntsville, AL | 0 | 0 | | 2496 | 1-4Q | 2351 | 1-4Q | Continue | 4847 | 0 |
| l . Architecture | MIPR | Navy, Arlington, VA | 0 | 0 | | 2496 | 1-4Q | 2351 | 1-4Q | Continue | 4847 | 0 |
| m . Architecture | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 2496 | 1-4Q | 2351 | 1-4Q | Continue | 4847 | 0 |
| n . Architecture | MIPR | Marine MARCOR, Quantico, VA | 0 | 0 | | 831 | 1-4Q | 784 | 1-4Q | Continue | 1615 | 0 |
| o . Architecture | Various | Various | 0 | 0 | | 8320 | 1-4Q | 7835 | 1-4Q | Continue | 16155 | 0 |
| p . Block Development Engineering | MIPR | Army - PEO AMD, Huntsville, AL | 0 | 0 | | 1273 | 1-4Q | 784 | | Continue | 2057 | 0 |
| q . Block Development Engineering | MIPR | Navy, Arlington, VA | 0 | 0 | | 1273 | 1-4Q | 784 | | Continue | 2057 | 0 |
| r . Block Development Engineering | MIPR | Air Force ESC, Boston, MA | 0 | 0 | | 1273 | 1-4Q | 784 | | Continue | 2057 | 0 |
| s . Block Development Engineering | MIPR | Marine MARCOR, Quantico, VA | 0 | 0 | | 424 | 1-4Q | 261 | | Continue | 685 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Block Development Engineering | Various | Various | 0 | 0 | | 4534 | 1-4Q | 3753 | | Continue | 8287 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 42725 | | 35970 | | Continue | 78695 | 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(R3)

**February 2004**

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

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

PROJECT
**S32**

| 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 Support | Various | | 0 | 0 | 1-4Q | 4593 | 1-4Q | 3698 | | Continue | 8291 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4593 | | 3698 | | Continue | 8291 | 0 |
| Project Total Cost: | | | 0 | 0 | | 47318 | | 39668 | | Continue | 86986 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | 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 (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 9719 | 36563 | 11634 | 0 | 8167 | 38606 | 42975 | Continuing | Continuing |
| 005 | CLOSE COMBAT CAPABILITIES ADV DEV | 0 | 26724 | 0 | 0 | 0 | 0 | 0 | 0 | 43716 |
| 606 | CNTRMN/BARRIER ADV DEV | 9719 | 9839 | 11634 | 0 | 8167 | 38606 | 42975 | Continuing | Continuing |

**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, 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 Program Element (PE) provides for the Intelligent Munitions System (IMS). The IMS provides the Future Combat System (FCS) unit of action with capability of intelligent mines, both lethal and non-lethal, demolitions includes sensors/seekers used by the US Army. It will enhance the effectiveness of the unit of action by providing networked munitions and real time targeting data 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) a Future Combat System complementary system.

These Systems supports the Future Force of the Transformation Campaign Plan (TCP). IMS is an FCS Block I Core program. GSTAMIDS and ASTAMIDS are FCS Complementary programs.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 9716 | 36976 | 42262 |
| Current Budget (FY 2005 PB) | 9719 | 36563 | 11634 |
| Total Adjustments | 3 | -413 | -30628 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 3 | -413 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -30628 |

In FY05 the Army reprogrammed $11.9M to 604808/D016 which provides for the System Demonstration and Development (SDD) phase of the IMS program. This was done to keep the Intelligent Munitions System (IMS) program in phase with the Future Combat System
In FY05 the Army reprogrammed $18.5M to 654645/D470 Future Combat Systems.

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

**February 2004**

| 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 2003 Actual | 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 | 0 | 26724 | 0 | 0 | 0 | 0 | 0 | 0 | 43716 |

**A. Mission Description and Budget Item Justification:** This project provides for component development of mine, demolition and non-lethal systems. The Intelligent Munitions System is one of the 18 core programs that make up the Future Combat Systems(FCS)Family of Systems. IMS is an integrated system of effects (lethal, non-lethal, anti-vehicle, anti-personnel, demolitions), software, sensors/seekers and communications that may be emplaced by multiple means and is capable of 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 Objecttive 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 FCS unit of action spiral development.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue Concept development - component and system level. | 0 | 22661 | 0 |
| Continue Modeling, simulation and analysis. | 0 | 2500 | 0 |
| Execute FCS integration activities into the System Integration Lab (SIL). | 0 | 800 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 763 | 0 |
| Totals | 0 | 26724 | 0 |

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

**February 2004**

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

| **B. Other Program Funding Summary** | 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 | 157649 | 1245118 | 1967611 | 1853885 | 1074551 | 1046145 | 807495 | 0 | 8152454 |
| APLA-A, (Mixed Systems), PE 654808, Project Number 443 | 30591 | 31471 | 67059 | 98042 | 99742 | 0 | 0 | 0 | 326905 |
| Close Combat Systems - Engineering Development PE 654808 Project Number D016 | 21483 | 2697 | 12000 | 12700 | 12105 | 21073 | 24499 | 0 | 106557 |

**C. Acquisition Strategy:** The IMS effort will awarded two cost plus incentive fee, incrementally funded Technology Development (TD) phase contracts. There will be a downselect to one TD phase contractors for the System Development and Demonstration (SDD) phase, and award a cost plus incentive fee, incrementally funded contract for SDD and low rate initial production. Will achieve an Initial Operational Capability as part of the Future Combat Systems Full Operational Capability.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Technology Development | C-CPIF | GDAIS, Bloomington, MN | 8842 | 0 | | 9468 | 1Q | 0 | | 0 | 18310 | Continue |
| b . IMS Technology Development | C-CPIF | Textron Systems Corp, Wilmington, MA | 0 | 0 | | 9467 | 1Q | 0 | | 0 | 9467 | Continue |
| c . Small Business Innovative Research/Small Business Technology Transfer Programs | | | 0 | 0 | | 763 | | 0 | | 0 | 763 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8842 | 0 | | 19698 | | 0 | | 0 | 28540 | 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 | 0 | 0 | | 3500 | 1Q | 0 | 1Q | Continue | 3500 | Continue |
| b . Eng. support (IMS) | MIPR | CECOM, Ft Monmouth, NJ | 0 | 0 | | 380 | 1Q | 0 | | Continue | 380 | Continue |
| c . IMS-Other OGAs/contracts | Various | Various | 0 | 0 | | 1546 | 1Q | 0 | | Continue | 1546 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**005**

| 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: | | | 0 | 0 | | 5426 | | 0 | | Continue | 5426 | 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 (IMS) | MIPR | ATEC, MD | 0 | 0 | | 300 | 1Q | 0 | | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 300 | | 0 | | 0 | 300 | 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-CCS, Picatinny Arsenal, New Jersey | 0 | 0 | | 1000 | 1Q | 0 | | Continue | 1000 | Continue |
| b . Program Management Support | T.O. Contract | Robbin-Gioia, Picatinny Arsenal, NJ | 0 | 0 | | 300 | 1Q | 0 | | Continue | 300 | Continue |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**005**

| 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: | | | 0 | 0 | | 1300 | | 0 | | Continue | 1300 | Continue |
| Project Total Cost: | | | 8842 | 0 | | 26724 | | 0 | | Continue | 35566 | Continue |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| IMS System Requirements Review | | 2Q | | | | | |
| IMS Component Prototype Testing | | | 1Q | | | | |
| IMS Preliminary Design Review | | 4Q | | | | | |
| IMS Milestone B* | | | | | 1Q | | |

The IMS program will use 6.5 funding begining in FY2004 to synchronize the program with the overall Future Combat System program. Milestone B will be funded from 654802/D016.

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

**February 2004**

| 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 2003 Actual | 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 | 9719 | 9839 | 11634 | 0 | 8167 | 38606 | 42975 | Continuing | Continuing |

**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). This System is a Future Combat Systems Increment I Complementary systems.

Advanced Mine Detection start in FY07.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct Source Selection and award ASTAMIDS System Component Development. | 700 | 0 | 0 |
| ASTAMIDS System Development and Demonstration. | 6969 | 5881 | 7962 |
| Test planning, preparation ,and support for ASTAMIDS. | 812 | 1795 | 1795 |
| ASTAMIDS Modeling, Analysis and Engineering support. | 1238 | 1877 | 1877 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 286 | 0 |
| Totals | 9719 | 9839 | 11634 |

| B. Other Program Funding Summary | 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 | 52852 | 33685 | 14768 | 28853 | 28278 | 48659 | 68240 | Continuing | Continuing |
| S11500, ASTAMIDS | 0 | 0 | 0 | 0 | 0 | 11486 | 12290 | Continuing | Continuing |

**C. Acquisition Strategy:** Airborne Stand-off Minefield Detection System (ASTAMIDS) was competitively selected a system component development contractor selected and awarded a competitive System Development and Demonstration (SDD) contract after completion of the System Component Development phase and Milestone Decision Authority (MDA) approval. A sole source production contract with multiple options is anticipated.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . ASTAMIDS | C-CPIF | Northrup Grumman, Melbourne, FL | 10278 | 7440 | 2Q | 5539 | 1Q | 7139 | 1Q | Continue | 30396 | Continue |
| b . Landmine Test Assets Procurement | C-FP | To Be Selected | 0 | 0 | | 350 | 4Q | 0 | | 0 | 350 | 350 |
| c . Small Business Innovative Research/Small Business Technology Transfer Programs | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10278 | 7440 | | 5889 | | 7139 | | Continue | 30746 | 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 . ASTAMIDS | MIPR | NVESD Ft Belvoir VA | 750 | 898 | 1Q | 625 | 1Q | 890 | 1Q | Continue | 3163 | Continue |
| b . ASTAMIDS | MIPR | Various | 0 | 550 | 1-4Q | 486 | 1Q | 590 | 1-4Q | 0 | 1626 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 750 | 1448 | | 1111 | | 1480 | | Continue | 4789 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . ASTAMIDS | MIPR | DTC, MD | 430 | 35 | 2-3Q | 1795 | 1-3Q | 1795 | 2Q | Continue | 4055 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 430 | 35 | | 1795 | | 1795 | | Continue | 4055 | 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 . ASTAMIDS | In-house | PM-CCS Picatinny NJ / Ft Belvoir VA | 0 | 157 | 1-4Q | 513 | 1-4Q | 520 | 1-4Q | Continue | 1190 | Continue |
| b . Prog Mgmt ASTAMIDS | C-FP | BRTRC Farifax VA | 0 | 639 | 1-2Q | 531 | 1Q | 700 | 1Q | Continue | 1870 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 796 | | 1044 | | 1220 | | Continue | 3060 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 11458 | 9719 | | 9839 | | 11634 | | Continue | 42650 | Continue |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| ASTAMIDS SDD Contract Award | 2Q | | | | | | |
| ASTAMIDS MS B | 1Q | | | | | | |
| ASTAMIDS Transition from SI to SD portion of SDD | | | 4Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 2324 | 10147 | 6249 | 6199 | 8140 | 15060 | 8817 | Continuing | Continuing |
| E78 TARGET DEFEATING SYS | 2324 | 5771 | 0 | 0 | 0 | 0 | 0 | 0 | 8095 |
| E79 SMOKE/OBSCURANT SYSTEM | 0 | 4376 | 6249 | 6199 | 8140 | 15060 | 8817 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** 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. U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. 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.

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

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 2323 | 10262 | 12972 |
| Current Budget (FY 2005 PB) | 2324 | 10147 | 6249 |
| Total Adjustments | 1 | -115 | -6723 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -42 | -115 | |
| SBIR/STTR Transfer | -67 | | |
| Adjustments to Budget Years | 110 | | -6723 |

FY2005 - Funds realigned ($-6723K) to higher Army requirements.

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

**February 2004**

| 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 2003 Actual | 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 | 2324 | 5771 | 0 | 0 | 0 | 0 | 0 | 0 | 8095 |

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

U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. These programs develop systems to provide robotic obscuration platforms (ROP) 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Program initiated by Common Robotic Kit (CRK) Milestone B for distant smoke or robotic obscuration systems. | 100 | 0 | 0 |
| Conduct contract execution for distant smoke or robotic obscuration systems. | 500 | 3603 | 0 |
| Design robotic obscuration platform (ROP) system. | 1724 | 400 | 0 |
| Fabricate and test ROP prototypes (3 at $500,000). | 0 | 1600 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 168 | 0 |
| Totals | 2324 | 5771 | 0 |

| B. Other Program Funding Summary | 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 | 3395 | 3540 | 3553 | 3713 | 3742 | 3830 | 3933 | Continuing | Continuing |

**C. Acquisition Strategy:** Project Smoke/Obscurant and Target Defeat: The Robotic Obscuration Platform (ROP) system, is a System Integration acquisition phase effort, utilizing full and open competition cost plus fixed fee (CPFF) contracting for engineering design and test of prototype systems mounted on the M56 Smoke Generator. Initial operational test and evaluation (IOTE) and production qualification (PQT) testing will require four systems each.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . ROP - Supports robotic hardware development | C/CPFF | Pearson Engineering Limited, England | 0 | 1000 | 1Q | 4057 | 1Q | 0 | | 0 | 5057 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1000 | | 4057 | | 0 | | 0 | 5057 | 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 . ROP - Supports developmental testing | OGA | TBD | 0 | 0 | 2Q | 100 | 1Q | 0 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 100 | | 0 | | 0 | 100 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . ROP - Conducts developmental tests | OGA | Fort Bragg, NC | 0 | 0 | | 0 | 1-2Q | 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 . ROP - Supports program management | In house | SBCCOM, APG, MD | 0 | 1124 | 1Q | 1291 | 1Q | 0 | | 0 | 2415 | 0 |
| b . ROP - Conducts Milestone and Initiates contract planning | In house | SBCCOM, APG, MD | 0 | 200 | 1-3Q | 323 | | 0 | | 0 | 523 | 0 |
| c . Small Business Innovative Research/Small Business Technology Transfer Programs | | | 0 | 0 | 1Q | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1324 | | 1614 | | 0 | | 0 | 2938 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 2324 | | 5771 | | 0 | | 0 | 8095 | 0 |

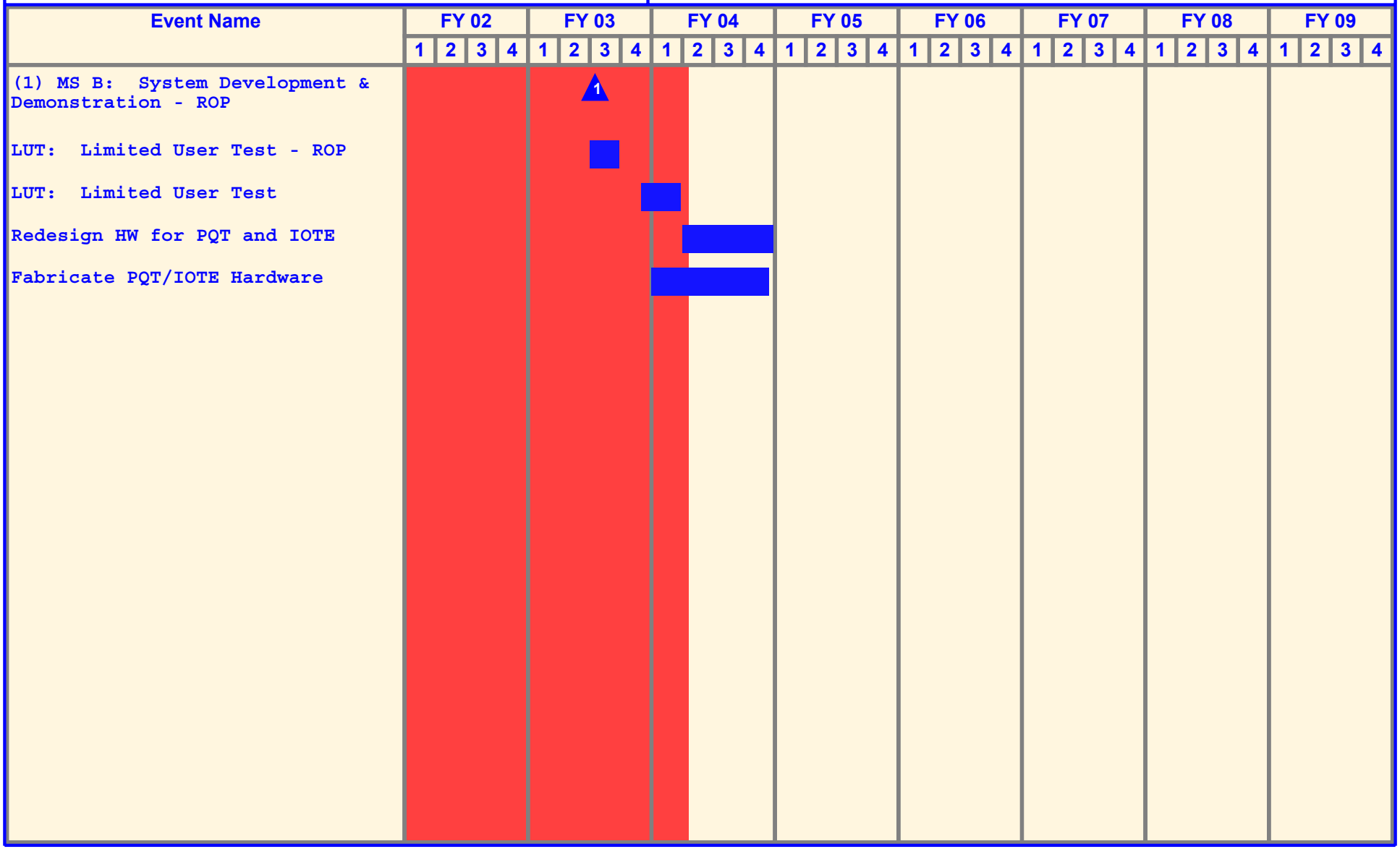
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**E78**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| ROP - Milestone B, Program and design initiation | 3Q | | | | | | |
| ROP - Fabricate ROP for Limited User Test (LUT) | 4Q | | | | | | |
| ROP - Conduct LUT | | 1Q | | | | | |
| ROP - Redesign hardware for PQT and IOTE | | 1-4Q | | | | | |
| ROP - Fabricate PQT/IOTE hardware | | 3-4Q | | | | | |

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

**February 2004**

| 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 2003 Actual | 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 | 4376 | 6249 | 6199 | 8140 | 15060 | 8817 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** 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 obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers.

U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum.

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

| Accomplishments/Planned Program | 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 | 4154 | 0 |
| Conduct initial Milestone B for the multispectral grenade and smoke pot. | 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 | 5453 |
| Qualify and quantify test requirements for candidate grenades and pots. | 0 | 0 | 600 |
| Initiate environmental impact studies on candidates grenades and pots. | 0 | 0 | 196 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 128 | 0 |
| Totals | 0 | 4376 | 6249 |

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

**February 2004**

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

| **B. Other Program Funding Summary** | 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 | 7193 | 11628 | 3798 | 0 | 0 | 12634 | 11379 | 0 | 53925 |

**C. Acquisition Strategy:** This project supports development of a new fast-acting visual grenade, multispectral grenade and smokepot and distant large area obscuration capabilities. The Advanced Component Development effort acquisition strategy utilizes full and open competition, cost plus fixed fee (CPFF) contracting to test and build multispectral grenades and pots.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 4154 | 1-4Q | 0 | | 0 | 4154 | 0 |
| b . Developmental Contract | C/CPFF | TBS | 0 | 0 | | 0 | | 5453 | 2Q | 0 | 5453 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 4154 | | 5453 | | 0 | 9607 | 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(R3)

**February 2004**

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 |
| b . Small Business Innovative Research/Small Business Technology Transfer Programs. | | | 0 | 0 | | 128 | 1Q | 0 | | 0 | 128 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 222 | | 0 | | 0 | 222 | 0 |
| Project Total Cost: | | | 0 | 0 | | 4376 | | 6249 | | 0 | 10625 | 0 |

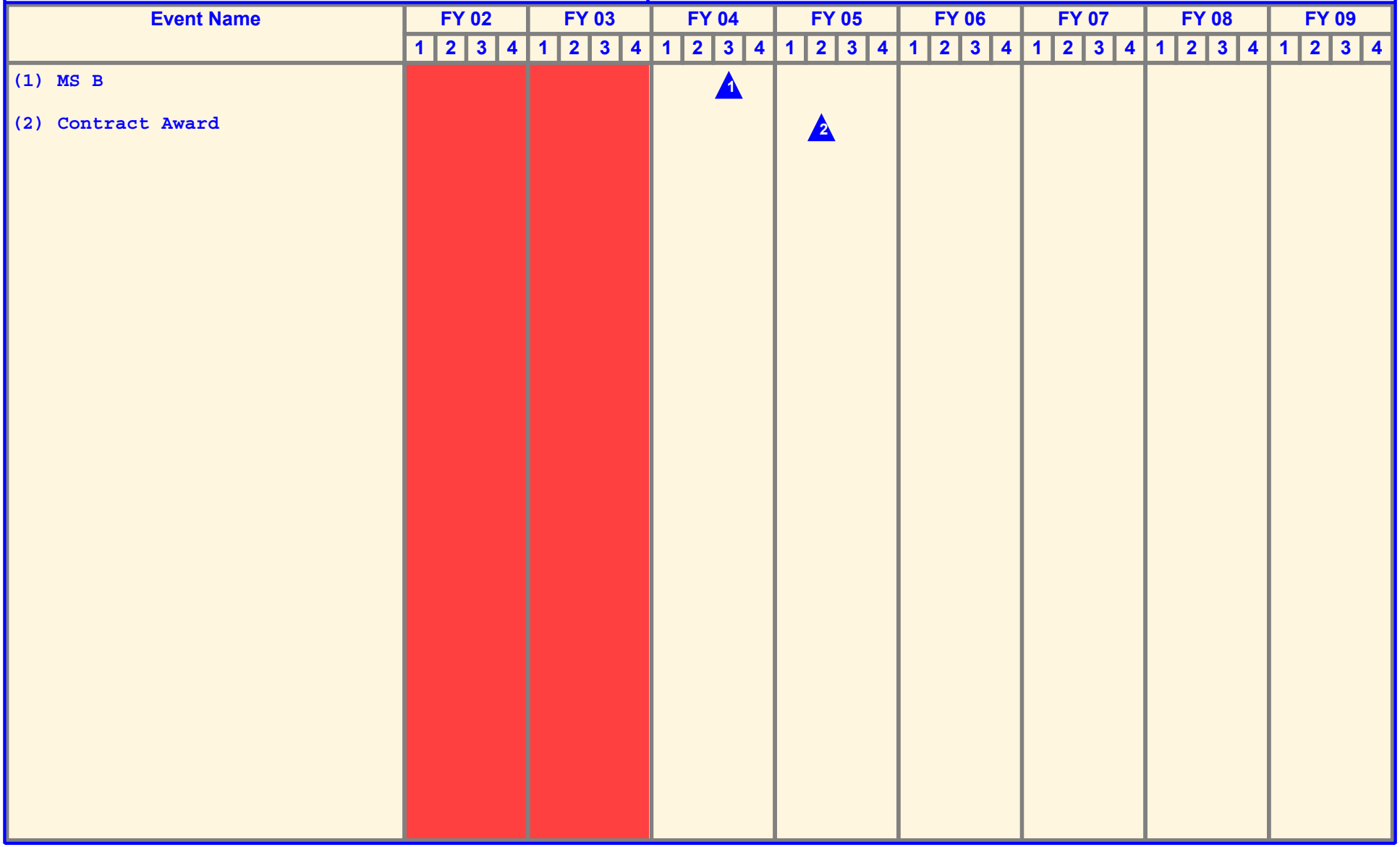
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**E79**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 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 (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 26367 | 26055 | 39697 | 64708 | 59243 | 71594 | 60427 | 0 | 443697 |
| 643 | 120MM CONVENTIONAL TANK AMMUNITION | 4930 | 5314 | 1940 | 8 | 9 | 5 | 0 | 0 | 67942 |
| 64B | 105MM CONVENTIONAL TANK AMMUNITION | 18626 | 3873 | 0 | 21 | 22 | 9 | 0 | 0 | 46078 |
| 656 | MOUNTED COMBAT SYSTEM (MCS) AMMUNITION | 0 | 14932 | 37757 | 61267 | 58355 | 70763 | 60427 | 0 | 319844 |
| 694 | MEDIUM CALIBER AMMUNITION | 2811 | 1936 | 0 | 3412 | 857 | 817 | 0 | 0 | 9833 |

**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 technologies 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.

FY 2005 supports the development of Mid Range Munitions (MRM) for the Future Combat System (FCS) Mounted Combat System (MCS). MRM will add significant capability to the FCS. It will add significant capability to the Future Force; it will provide greater hit probability at extended ranges, both line-of sight and beyond-line-of sight, increased survivability and lethality for the MCS and will have 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.

FY 2004 and prior year funding also supports /supported MRM as well as the following other ammunition rounds: Kinetic Energy (120mm, M829A3), Training Ammunition (120mm, XM1002 and 25mm M910E1), and Anti-Personnel Ammunition (105mm, XM1040 and 120mm, XM1028).

To date, six rounds of tank ammunition (M829, M829A1, M829A2, M830A1, M831 and M829A3) have completed development and transitioned to production.

This PE supports the Current-to Future and Future transition paths of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 26492 | 11249 | 1943 |
| Current Budget (FY 2005 PB) | 26367 | 26055 | 39697 |
| Total Adjustments | -125 | 14806 | 37754 |
| Congressional program reductions | | | |
| Congressional rescissions | | -224 | |
| Congressional increases | | 15100 | |
| Reprogrammings | -125 | -70 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 37754 |

FY 2004: Project 656 received a Congressional plus up of $15.1M for Preliminary Design Work for the Mounted Combat System Ammunition.

FY 2005: Project 656 received $37.8 M for contract award and start of Systems Development and Demonstration for Mounted Combat System Ammunition.

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 4930 | 5314 | 1940 | 8 | 9 | 5 | 0 | 0 | 67942 |

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

FY 2005 funding is provided for completion of Product Qualification Testing (PQT) of the XM1028 120mm Canister Cartridge.

FY 2004 and prior year funding supports 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 with hand-held anti-tank weapons and automatic weapons at close range (700 meters or less). The cartridge expels 1115 tungsten ball, similar in concept to a shotgun. However, the XM1028 has no fuze and is intended to be a simple, low-cost, low-technology cartridge. This project leverages ongoing and projected International Cooperative developments such as Future Tank Main Armament (FTMA) and other program arrangements and agreements.

FY 2003 funding supports the development of the 120mm XM1002 Target Practice Multi-Purpose With Tracer (TPMP-T) training cartridge. This cartridge will be 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 ranges restrictions on many types of service ammunitions.

This project supports the Current-to-Future transition paths of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| XM1002 TPMP-T Cartridge Engineering and Manufacturing Development (EMD) Phase 1 completion and Phase 2. | 3430 | 0 | 0 |
| Systems Development and Demonstration (SDD) (XM1028). | 1500 | 5176 | 0 |
| Complete PQT (XM1028). | 0 | 0 | 1940 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 138 | 0 |
| Totals | 4930 | 5314 | 1940 |

| B. Other Program Funding Summary | 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 | 49700 | 39609 | 34394 | 27261 | 0 | 0 | 0 | 0 | 197392 |
| E73400-M865 120mm KE Tank Trainer Cartridge | 102912 | 84022 | 89851 | 88825 | 102617 | 130873 | 124845 | Continuing | Continuing |
| E78003-M829A3 120mm Tank KE Cartridge | 42597 | 36249 | 42500 | 44603 | 45875 | 45834 | 45907 | Continuing | Continuing |
| E78011 M1028 120mm Canister Cartridge | 0 | 5844 | 7345 | 8363 | 0 | 0 | 0 | 0 | 21552 |
| E73201 M1002 120mm MPAT Tank Trainer Cartridge | 0 | 4138 | 15473 | 25090 | 49383 | 69603 | 65164 | Continuing | Continuing |

**C. Acquisition Strategy:** FY 05 funds provide for completion of XM1028 PQT.

FY 03 and FY 04 funds the development of the XM1028 Canister Cartridge using a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements; this round transitions to production in FY 04.

FY 03 funds development of the XM1002 TPMP-T training cartridge using a steamlined acquisition strategy, keeping costs low while meeting scheduled requirements. The XM1002 will replace the current M831A1 training cartridge. This round transitions to production in FY 04.

Operational Requirements Documents (ORDs) have been approved for the XM1028 and the XM1002.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . MRM (Contract) | CPFF | Scientific Technical Associates (STA) | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| b . MRM (Integration Contract) | C-CPFF | Raytheon, AZ | 450 | 0 | | 0 | | 0 | | 0 | 450 | 0 |
| c . XM1002 TPMP-T Ctg | FFP | Alliant Ammunition Systems, Twin Cities Army Ammunition Plant, New Brighton, MN | 4715 | 0 | | 0 | | 0 | | 0 | 4715 | 0 |
| d . TACOM-ARDEC (XM1002) | MIPR | Picatinny Arsenal, NJ | 1300 | 935 | 1-2Q | 0 | | 0 | | 0 | 2235 | 0 |
| e . Miscellaneous (XM1002) | MIPR | Multiple | 520 | 234 | 1-2Q | 0 | | 0 | | 0 | 754 | 0 |
| f . Gen Dyn Ord Tactical Sys (G-DOTS) (XM1028) | FFP | St. Petersburg, FL | 2200 | 0 | | 2388 | 1Q | 1440 | 1Q | 0 | 6028 | 0 |
| g . TACOM-ARDEC (XM1028) | MIPR | Picatinny Arsenal, NJ | 100 | 650 | 1-2Q | 588 | 1-4Q | 100 | 1-4Q | 0 | 1438 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9385 | 1819 | | 2976 | | 1540 | | 0 | 15720 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Aberdeen Test Center (XM1002) | MIPR | Aberdeen PG, MD | 375 | 1700 | 1-2Q | 0 | | 0 | | 0 | 2075 | 0 |
| b . Miscellaneous (XM1002) | MIPR | Multiple | 200 | 361 | 1-2Q | 0 | | 0 | | 0 | 561 | 0 |
| c . Aberdeen Test Center (XM1028) | MIPR | Aberdeen PG, MD | 300 | 650 | 1-2Q | 1800 | 1-4Q | 100 | 1-2Q | 0 | 2850 | 0 |
| d . Miscellaneous (XM1028) | MIPR | Multiple | 0 | 0 | | 200 | 1-4Q | 100 | 1-4Q | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 875 | 2711 | | 2000 | | 200 | | 0 | 5786 | 0 |

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**643**

| 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) | MIPR | Multiple | 1450 | 0 | | 0 | | 0 | | 0 | 1450 | 0 |
| b . PM-MAS (XM1002) | MIPR | Picatinny Arsenal, NJ | 610 | 200 | 1-2Q | 0 | | 0 | | 0 | 810 | 0 |
| c . PM-MAS (XM1028) | MIPR | Picatinny Arsenal, NJ | 100 | 200 | 1-2Q | 200 | 1-4Q | 200 | 1-4Q | 0 | 700 | 0 |
| d . SBIR/STTR | | | 0 | 0 | | 138 | 2Q | 0 | | 0 | 138 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2160 | 400 | | 338 | | 200 | | 0 | 3098 | 0 |
| Project Total Cost: | | | 12420 | 4930 | | 5314 | | 1940 | | 0 | 24604 | 0 |

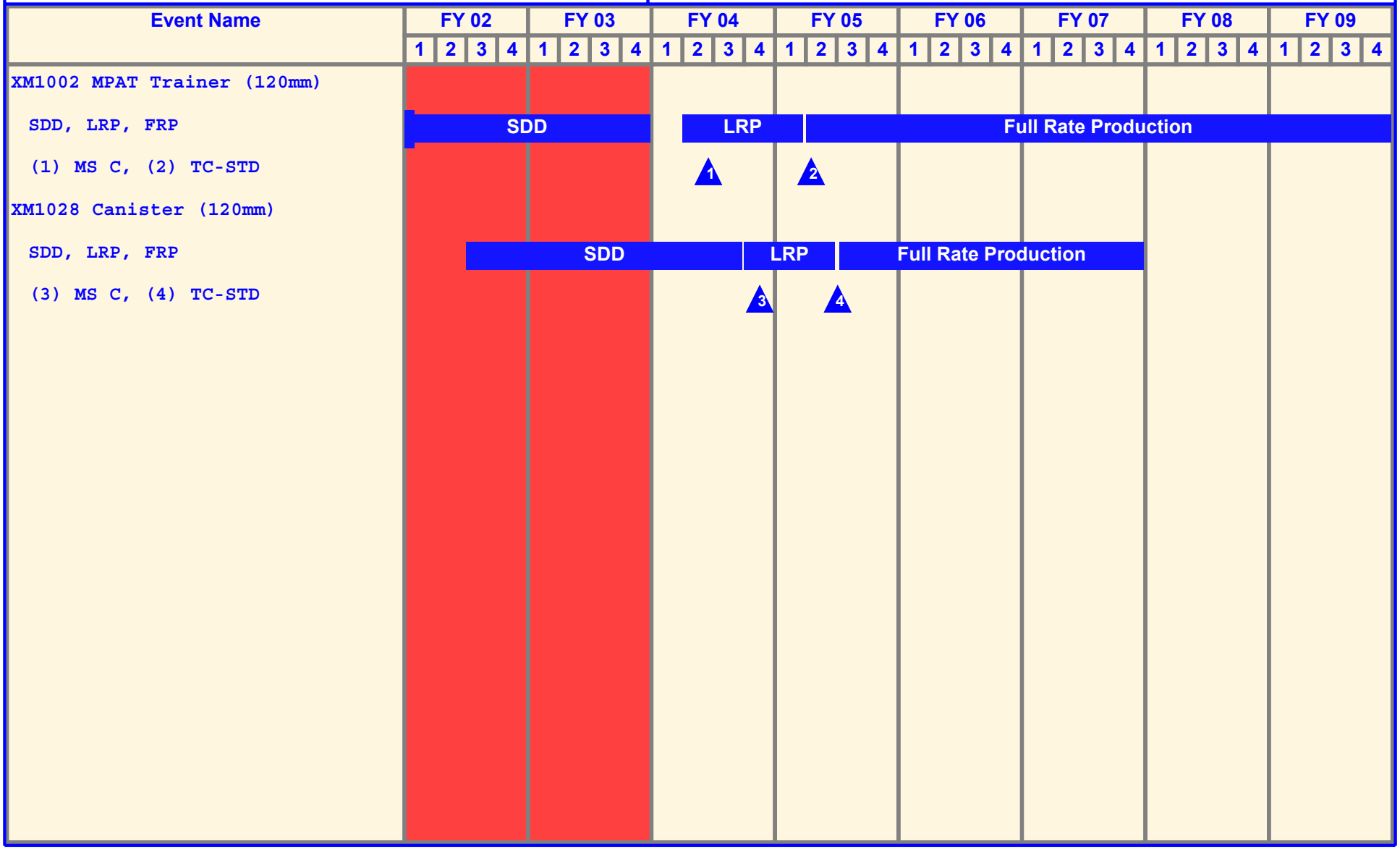
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**643**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| XM1002 TP-T CARTRIDGE | | | | | | | |
| Cartridge Design Freeze | 2Q | | | | | | |
| Procure PQT propellant/propulsion components | 1-2Q | | | | | | |
| Procure other PQT components/LAP | 1-3Q | | | | | | |
| Test PQT | 4Q | 1Q | | | | | |
| Milestone C | | 2Q | | | | | |
| XM1028 CANISTER CARTRIDGE | | | | | | | |
| Design and Evaluation Testing | 1-4Q | | | | | | |
| Prototype Manufacturing | | 1Q | | | | | |
| Qualification Testing | | 3Q | 1-2Q | | | | |
| Milestone C | | 3Q | | | | | |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 18626 | 3873 | 0 | 21 | 22 | 9 | 0 | 0 | 46078 |

**A. Mission Description and Budget Item Justification:** For FY 2005, there is no funding for this project.

FY 2004 and prior year funding provides / provided for the development of the XM1040, a 105mm anti-personnel canister cartridge urgently needed for the Stryker Brigade Combat Team (SBCT) Mobile Gun System (MGS). This munition will be capable of suppressing dismounted infantry assaults in close / restricted terrain. This 2-year development effort leverages technologies developed for 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.

FY 2003 funding provided for preliminary design efforts for the Mid Range Munition (MRM) for the Future Combat System's Mounted Combat System. Beginning in FY 2004, funding for MRM is in Project 656.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Contract Award/Prototype Manufacturing (XM1040). | 2274 | 3774 | 0 |
| Kinetic Energy (KE) Smart Ctg Demo. | 0 | 0 | 0 |
| KE 105mm Preliminary Design (MRM). | 5608 | 0 | 0 |
| TM3 105mm Preliminary Design (MRM). | 9744 | 0 | 0 |
| GPS and Anti-Jam Development (MRM). | 1000 | 0 | 0 |
| Small Business Innovative Research / Small Business Technology Transfer Programs. | 0 | 99 | 0 |
| Totals | 18626 | 3873 | 0 |

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

**February 2004**

| 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 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 M393E3 | 2068 | 7792 | 7834 | 6500 | 0 | 0 | 0 | 0 | 30160 |
| PAA SSN E22300: CTG, 105mm TP-T, M467A1 | 5610 | 9740 | 14689 | 20521 | 20751 | 21936 | 19472 | Continuing | Continuing |
| PAA SSN E24400 CTG, 105mm Canister, M1040 | 0 | 2922 | 4896 | 6600 | 4743 | 5924 | 7416 | Continuing | Continuing |

**C. Acquisition Strategy:** There are no FY 05 funds in this project.

FY 03 and FY 04 funds 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 was competitive and developed using performance specifications leveraging the technology of the preceding XM1028, 120mm anti-personnel Canister cartridge. This project uses a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. This round transitions to production in FY 04.

The Operational Requirements Document (ORD) for this program has been approved.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 3570 | 2Q | 0 | | 0 | | 0 | 13770 | 0 |
| b . Raytheon (MRM) | SS-CPFF | Tucson, AZ | 6000 | 8398 | 2Q | 0 | | 0 | | 0 | 14398 | 0 |
| c . Electro-Radiation Inc. (MRM) | SS-CPFF | Fairfield, NJ | 700 | 750 | 2Q | 0 | | 0 | | 0 | 1450 | 0 |
| d . TACOM-ARDEC (MRM) | MIPR | Picatinny Arsenal, NJ | 2610 | 946 | 2-4Q | 0 | | 0 | | 0 | 3556 | 0 |
| e . Miscellaneous (MRM) | MIPR | Multiple | 1190 | 777 | 2-4Q | 0 | | 0 | | 0 | 1967 | 0 |
| f . Alliant Tech Systems (XM1040) | CPFF | Arden Hills, MN | 0 | 2300 | 1-2Q | 2124 | 2Q | 0 | | 0 | 4424 | 0 |
| g . TACOM-ARDEC (XM1040) | MIPR | Picatinny Arsenal, NJ | 0 | 348 | 1-4Q | 500 | 2Q | 0 | | 0 | 848 | 0 |
| h . Miscellaneous (XM1040) | | Multiple | 0 | 0 | 1-4Q | 100 | 3Q | 0 | | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20700 | 17089 | | 2724 | | 0 | | 0 | 40513 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 (MRM) | MIPR | Yuma, AZ | 100 | 600 | 2-4Q | 0 | | 0 | | 0 | 700 | 0 |
| b . Army Evaluation Center (AEC) (MRM) | MIPR | Aberdeen, MD | 75 | 147 | 2Q | 0 | | 0 | | 0 | 222 | 0 |
| c . Army Research Lab (ARL) (MRM) | MIPR | Aberdeen, MD | 350 | 200 | 2-4Q | 0 | | 0 | | 0 | 550 | 0 |
| d . Aberdeen Test Center (XM1040) | MIPR | Aberdeen, MD | 0 | 0 | 1-2Q | 600 | 3Q | 0 | | 0 | 600 | 0 |
| e . Yuma Proving Ground (XM1040) | MIPR | Yuma, AZ | 0 | 0 | 1-2Q | 100 | 3Q | 0 | | 0 | 100 | 0 |
| f . AMSAA (ARL) | MIPR | Aberdeen, MD | 0 | 0 | 1-2Q | 150 | 2Q | 0 | | 0 | 150 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**64B**

| 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: | | | 525 | 947 | | 850 | | 0 | | 0 | 2322 | 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 (MRM) | Multiple | Picatinny Arsenal, NJ | 2302 | 350 | | 0 | | 0 | | 0 | 2652 | 0 |
| b . PM-MAS (XM1040) | Multiple | Picatinny Arsenal, NJ | 0 | 240 | 1-4Q | 200 | 1-4Q | 0 | | 0 | 440 | 0 |
| c . SBIR/STTR | | | 0 | 0 | | 99 | 2Q | 0 | | 0 | 99 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2302 | 590 | | 299 | | 0 | | 0 | 3191 | 0 |
| Project Total Cost: | | | 23527 | 18626 | | 3873 | | 0 | | 0 | 46026 | 0 |

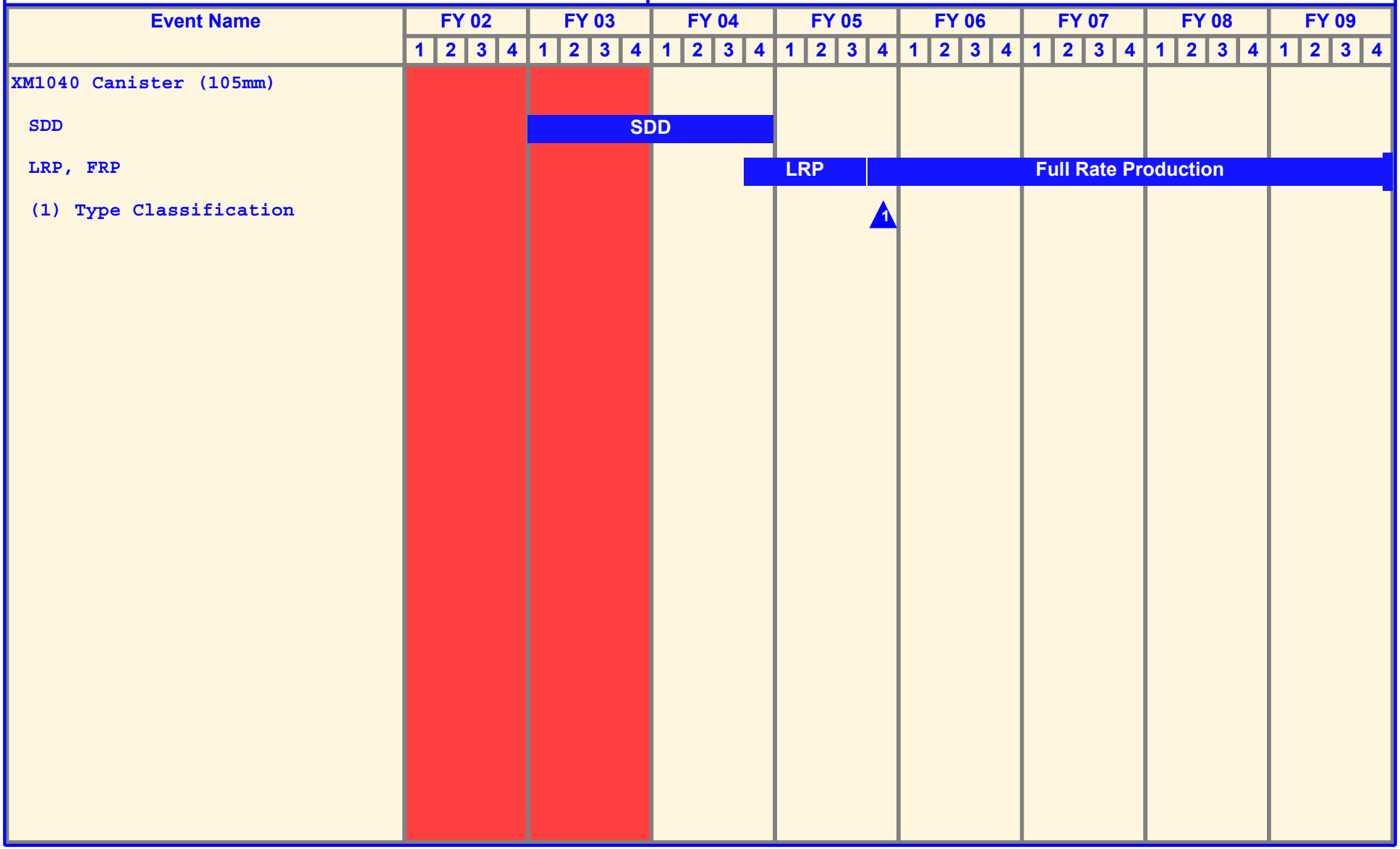
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**64B**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Airframe and Propulsion Compulsion Tests (KE/TM3) | 2Q | | | | | | |
| Test Hardware Manufacturing (MRM) | 2-4Q | | | | | | |
| Preliminary Tests (MRM) | 4Q | 1Q | | | | | |
| Guide to Hit Test (MRM) | | 1Q | | | | | |
| Analog to Digital Conversion (GPS) (MRM) | 4Q | 1Q | | | | | |
| Contract Award (XM1040) | 2Q | | | | | | |
| Engineering Design Tests (XM1040) | | 3-4Q | | | | | |
| Milestone C (XM1040) | | 4Q | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **656** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 656 | MOUNTED COMBAT SYSTEM (MCS) AMMUNITION | 0 | 14932 | 37757 | 61267 | 58355 | 70763 | 60427 | 0 | 319844 |

**A. Mission Description and Budget Item Justification:** This project will develop the ammunition suite for the Future Combat System (FCS) Mounted Combat System (MCS). It includes the Mid Range Munition (MRM), Advance Kinetic Energy, and the future Multi-Purpose rounds.

The Mid Range Munition (MRM) will provide FCS MCS with a precision munition capable of hitting and killing all battlefield targets at beyond line of sight ranges between 2-12k increasing survivability and lethality, and expanding the Maneuver Task Force Commanders battle space. It supports FCS Increment 1 objectives of expanded battle space, and multi-mission direct and indirect fire capability. MRM leverages state of the art sensor technologies to provide immediate responsive fires to support Family of Vehicles or other scouts.

The Advance KE will provide line-of-sight, fast response lethality to rapidly destroy threat targets in close fight.

The multi-purpose round will allow the MCS to support operations in complex and urban terrain, providing capability against massed infantry, structure, and self-protection against rotary aircraft.

For FY 2003 and prior years, funding for MRM is in Project 64B.

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 other program arrangements and agreements.

The project supports the Current-to-Future and Future transformation paths of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Contract Award and start of System Development and Demonstration (SDD). | 0 | 0 | 37757 |
| KE 120mm Preliminary Design. | 0 | 5698 | 0 |
| CE 120mm Preliminary Design. | 0 | 5699 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| GPS and Anti-Jam Development. | 0 | 3100 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 435 | 0 |
| Totals | 0 | 14932 | 37757 |

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

**C. Acquisition Strategy:** The Mid Range Munition (MRM) Program is currently in the Technology Base. It is scheduled to transition (Milestone B) to System Development and Demonstration (SDD) at the end of FY04. There are currently two competing technical concepts. The SDD contract competition will be limited to the two current contractors, Raytheon and Alliant Tech Systems. The SDD contract will contain priced production options. The MRM schedule coincides with the Mounted Combat System development schedule for FCS increment I. MRM is designated as an "FCS Complementary System".

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**656**

| 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 . MRM System Contractor | CPIF/AF | TBS | 0 | 0 | | 0 | | 29257 | 1Q | 0 | 29257 | 0 |
| b . Alliant Tech Systems | SS-CPFF | Clearwater, FL | 0 | 0 | | 3708 | 1-3Q | 0 | | 0 | 3708 | 0 |
| c . Raytheon | SS-CPFF | Tucson, AZ | 0 | 0 | | 3709 | 1-3Q | 0 | | 0 | 3709 | 0 |
| d . Electro-Radiation, Inc | SS-CPFF | Fairfield, NJ | 0 | 0 | | 2800 | 2-3Q | 0 | | 0 | 2800 | 0 |
| e . TACOM-ARDEC | MIPR | Picatinny Arsenal, NJ | 0 | 0 | | 1600 | 2-4Q | 1500 | 1-4Q | 0 | 3100 | 0 |
| f . Miscellaneous | MIPR | Multiple | 0 | 0 | | 600 | 1-4Q | 500 | 2-3Q | 0 | 1100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 12417 | | 31257 | | 0 | 43674 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**656**

| 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, ATC | MIPR | Yuma AZ/APG, MD | 0 | 0 | | 430 | 1-3Q | 1000 | 1-3Q | 0 | 1430 | 0 |
| b . Army Research Lab | MIPR | Aberdeen PG, MD | 0 | 0 | | 250 | 1-3Q | 1500 | 1-4Q | 0 | 1750 | 0 |
| c . Redstone Arsenal | MIPR | Huntsville, AL | 0 | 0 | | 400 | 2-3Q | 3000 | 2-3Q | 0 | 3400 | 0 |
| d . Miscellaneous | MIPR | Multiple | 0 | 0 | | 500 | 2-4Q | 500 | 2Q | 0 | 1000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1580 | | 6000 | | 0 | 7580 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**656**

| 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-TMAS | MIPR | Picatinny Arsenal, NJ | 0 | 0 | | 500 | 1-4Q | 500 | 1-4Q | 0 | 1000 | 0 |
| b . SBIR/STTR | | | 0 | 0 | | 435 | 2Q | 0 | | 0 | 435 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 935 | | 500 | | 0 | 1435 | 0 |
| Project Total Cost: | | | 0 | 0 | | 14932 | | 37757 | | 0 | 52689 | 0 |

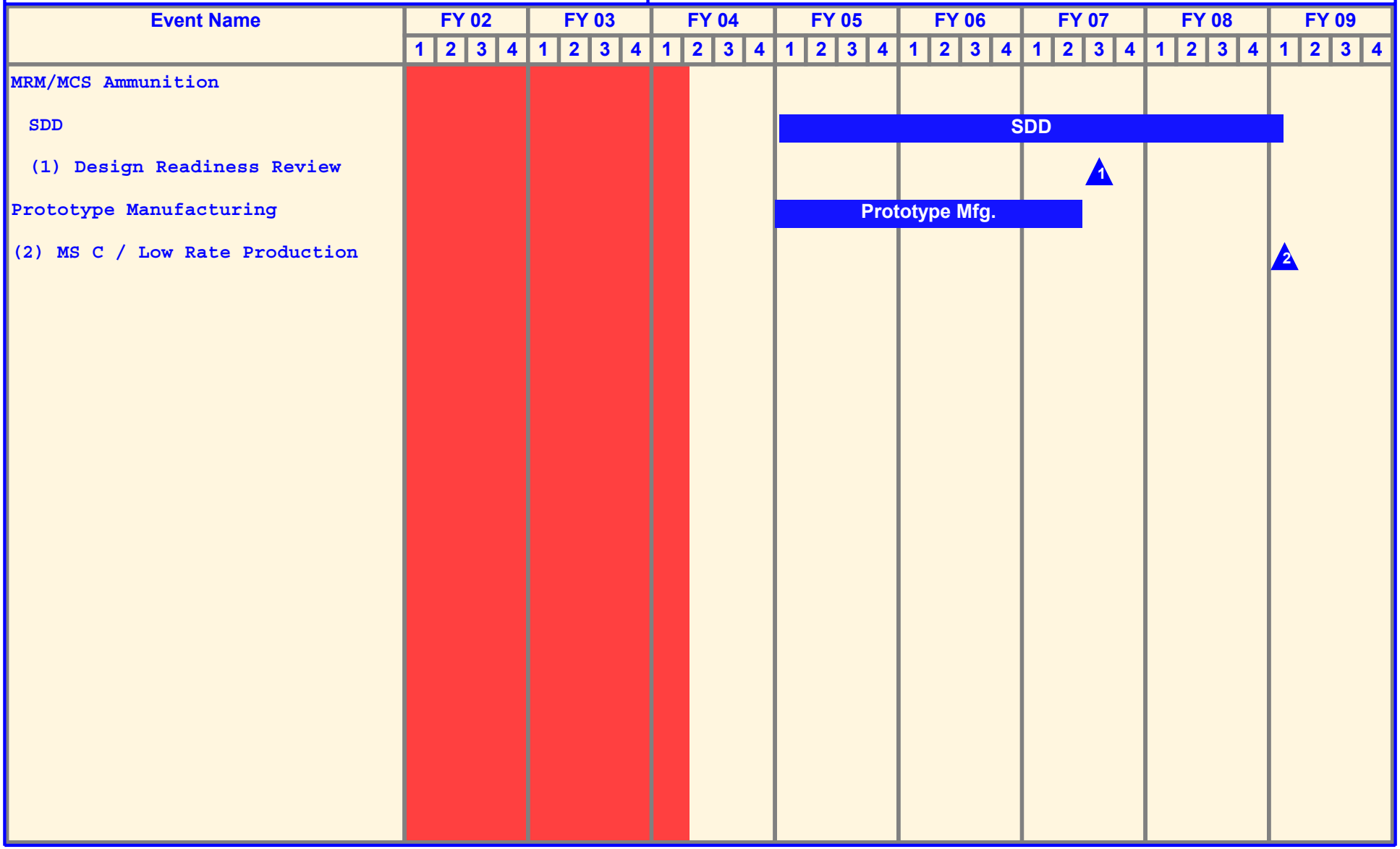
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**656**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603639A - Tank and Medium Caliber Ammunition** | **656** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Continuation of Guide-to-Hit test | | 2Q | | | | | |
| Release Request for Proposal (RFP) | | 3Q | | | | | |
| Source Selection | | 4Q | | | | | |
| Initiate System Development and Demonstration | | | 1Q | | | | |
| Design Readiness Review | | | | | 3Q | | |
| Prototype Manufacturing | | | 1-4Q | 1-4Q | 1-2Q | | |
| Milestone C - Low Rate Production | | | | | | | 1Q |

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

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 2811 | 1936 | 0 | 3412 | 857 | 817 | 0 | 0 | 9833 |

**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.

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

For FY 2005, there is no funding for this project.

FY 2004 and prior year funding supports the development of the 25mm M910E1 Target Practice, Discarding Sabot w/Tracer (TPDS-T) cartridge. The 25mm M910E1 will provide 0-2500 meter ballistic similarity to the current tactical tactical, 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 supports the Current-to-Future and Future Transition paths of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Contract Award/Prototype Design and Development (25mm M910E1). | 2811 | 0 | 0 |
| Contract Award/Option Production Qualification Test (25mm M910E1). | 0 | 1882 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 54 | 0 |
| Totals | 2811 | 1936 | 0 |

| B. Other Program Funding Summary | 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) | 46280 | 10413 | 0 | 0 | 0 | 0 | 0 | 0 | 86393 |
| PAA SSN E08204, M910 25mm TPDS-T | 16856 | 440 | 87 | 0 | 0 | 0 | 0 | 0 | 38044 |
| PAA SSN E08203 M793 25mm TP-T | 28082 | 7819 | 7513 | 6005 | 13987 | 15377 | 16069 | Continuing | Continuing |
| PAA SSN E08211, M910E1 25mm TPDS-T | 0 | 0 | 14000 | 8620 | 30176 | 29000 | 28559 | Continuing | Continuing |

**C. Acquisition Strategy:** There are no FY 05 funds in this project.

FY 03 and FY 04 funds 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 was competitive. This project uses a streamlined acquisition strategy using performance specifications to keep costs low while meeting schedule requirements. This program will transition to production in FY 05.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Alliant Tech Systems | CPIF | Minneapolis, MN | 0 | 2396 | 4Q | 1095 | 1-2Q | 0 | | 0 | 3491 | 0 |
| b . ARDEC | MIPR | Picatinny Arsenal, NJ | 0 | 215 | 1-4Q | 100 | 1-4Q | 0 | | 0 | 315 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2611 | | 1195 | | 0 | | 0 | 3806 | 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(R3)

**February 2004**

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) | MIPR | Yuma, AZ | 0 | 0 | | 487 | 2-3Q | 0 | | 0 | 487 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 487 | | 0 | | 0 | 487 | 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 |
| b . SBIR/STTR | | | 0 | 0 | | 54 | 2Q | 0 | | 0 | 54 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 200 | | 254 | | 0 | | 0 | 454 | 0 |
| Project Total Cost: | | | 0 | 2811 | | 1936 | | 0 | | 0 | 4747 | 0 |

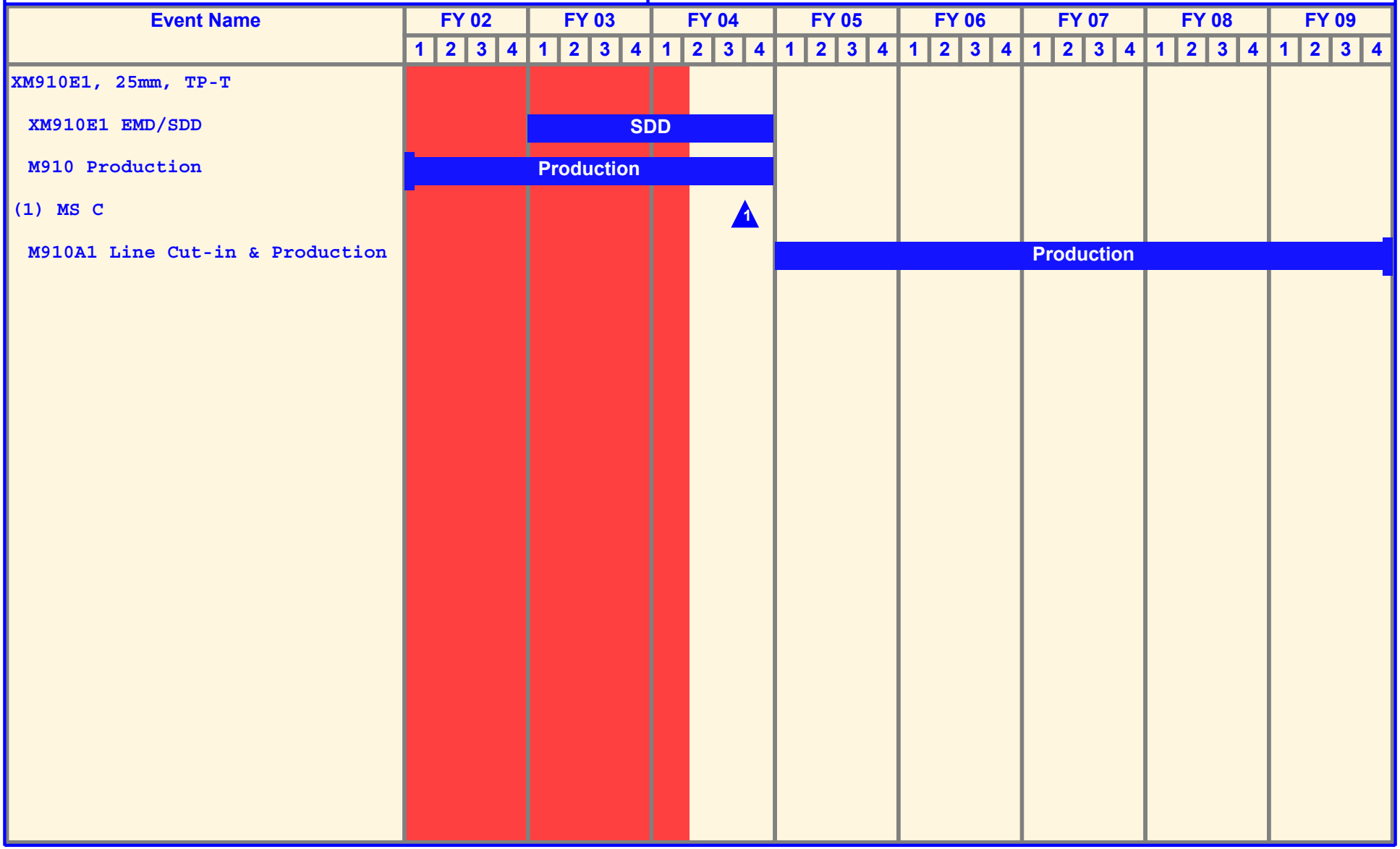
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**694**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

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

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603645A - ARMORED SYSTEM MODERNIZATION - ADV DEV** | **F48** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F48 | NETWORKED FIRES SYSTEM TECHNOLOGY | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |

**A. Mission Description and Budget Item Justification:** This project funds a risk reduction effort to develop Networked Fires Systems Technology command and control capability and develop early prototypes of the NetFires Block I Precision Attack Missile (PAM). In FY04, this effort transitions to PE 0604645A - Armored Systems Modernization (ASM) - Engineering Development. A major component of the Networked Fires System Technology is NetFires, a platform-independent launch unit with integrated, networked electronics and software capable of firing Precision Attack and Loitering Attack Missiles (PAM/LAM). The NetFires system consists of a family of platform independent, containerized guided munitions that are vertically launched directly from a container that is optimized for logistics, deployability, and lethality, and corresponding Command, Control, Communications, Computers, and Intelligence, Surveillance and Reconnaissance (C4ISR) capability to manage and employ these assets. The C4ISR portion of NetFires provides missile mission planning/management application, launcher C3 software, management and execution of munition-target pairing, loading targeting and flight information prior to launch to the missile, the ability to designate and employ PAM and LAM munitions, conduct in-flight retargeting and retargeting of in-flight missiles via the tactical information grid.

The NetFires Block I PAM leverages Common Missile technology into a vertical launch capability that will engage a wide spectrum of targets via a dual-mode Imaging Infrared (I2R) and Semi-Active Laser (SAL) seeker in fire and forget and laser-designated modes. The PAM is a guided missile with a multi-capable warhead effective against armor and soft targets for attacking Line of Sight (LOS), Non-Line of Sight (NLOS) and Beyond LOS targets. The PAM will receive targeting and flight information prior to launch via NetFires C4ISR and use an internal, jam-resistant guidance system to fly to the initial target location. Targeting updates can be sent to the missile in flight via NetFires C4ISR. The seeker will search the target area during the terminal portion of the flight and make final corrections to hit the target. The PAM will have a seeker that enables precision attack with or without the need for laser anointment of the target. PAM will support laser designated, laser anointed, and fire-and-forget modes of operation.

Networked Fires Systems Technology C4ISR provides responsive and precise Non-Line of Sight (NLOS) lethality against a dynamic enemy as well as autonomous clearance of fires for target acquisition, command, and control. The C4ISR will provide tactical and technical fire control including attack analysis, munition-target pairing, mission data development, mission planning, missile mission planning/management application, ballistics solutions, airspace management and deconfliction, protection against potential information warfare attacks, and a hand-held Special Operation Forces (SOF) missile planner/manager which leverages Pocket-sized Forward Entry Device (PFED) technology for planning, execution and management of Networked Fires attacks by pre-early entry warfighters. With the submission of the FY03 Amended President's Budget, Networked Fires System Technology was identified as a new start.

The system supports the Future Force Transition Path of the Transformation Campaign Plan (TCP).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603645A - ARMORED SYSTEM MODERNIZATION - ADV DEV** | **F48** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Network risk mitagation to provide early demonstration of the Command & Control software | 41136 | 0 | 0 |
| Conduct and obtain essential engineering / design efforts related to MGV Common items. These designs are required for risk mitigation. | 45919 | 0 | 0 |
| NLOS-LS Transition DARPA Technologies | 2847 | 0 | 0 |
| NLOS-LS Trade studies and Risk mitigation | 6100 | 0 | 0 |
| NLOS-LS Define Increment I configuration | 24397 | 0 | 0 |
| NLOS-LS Perform Electronic Safe & Arm Device (ESAD) and warhead technology | 4066 | 0 | 0 |
| NLOS-LS Define platform & network integration requirements | 3486 | 0 | 0 |
| Totals | 127951 | 0 | 0 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 114509 | 0 | 0 |
| Current Budget (FY 2005 PB) | 127951 | 0 | 0 |
| Total Adjustments | 13442 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 13442 | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | |

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

**D. Acquisition Strategy:** Networked Fires Systems Technology Concept and Technology Development (CTD) effort will use existing prime contractors to complete CTD phase. The System Development and Demonstration (SDD) Missile and Launcher efforts will be competed between the CTD contractors. The C4ISR efforts will continue to use existing prime contractors to develop incremental software release synchronized and coordinated with missile and launcher efforts to minimize technical and schedule risk.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603645A - ARMORED SYSTEM MODERNIZATION - ADV DEV**

PROJECT
**F48**

| 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 and IN; Lockheed Martin, FL; Boeing, AL & CA: UDLP, MN | 0 | 80493 | 1Q | 0 | | 0 | | 0 | 80493 | 0 |
| b . Support Contracts (Modeling & Simulation) | Various | PM Unit of Action Networks (UAN) | 0 | 8700 | 1-3Q | 0 | | 0 | | 0 | 8700 | 0 |
| c . Development Engineering | Various | NSWC, VA; CERDEC, NJ; AMRDEC, AL; USMA, NY: DARPA: Mitre, VA | 0 | 22708 | 1-4Q | 0 | | 0 | | 0 | 22708 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 111901 | | 0 | | 0 | | 0 | 111901 | 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 | TBD | Computer Sciences Corp, NJ; Booz Allen Hamilton, NJ and VA; and Various | 0 | 2200 | 1-3Q | 0 | | 0 | | 0 | 2200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2200 | | 0 | | 0 | | 0 | 2200 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603645A - ARMORED SYSTEM MODERNIZATION - ADV DEV**

PROJECT
**F48**

| 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 In-House | TBD | Unit of Action Mounted Maneuver Battle Lab, KY; ARDEC, NJ; ATEC, OK; Redstone Tech Test Center, AL | 0 | 9200 | 1-3Q | 0 | | 0 | | 0 | 9200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 9200 | | 0 | | 0 | | 0 | 9200 | 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/Project Management | Various | PM Common Missile (CM), AL; PM IE, NJ; PM UAN, NJ | 0 | 4650 | 1-4Q | 0 | | 0 | | 0 | 4650 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 4650 | | 0 | | 0 | | 0 | 4650 | 0 |
| Project Total Cost: | | | 0 | 127951 | | 0 | | 0 | | 0 | 127951 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603645A - ARMORED SYSTEM MODERNIZATION - ADV DEV** | **F48** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Contract Change Order (Risk Reduction System Definition) | 1Q | | | | | | |
| Preliminary Launcher C3 Interface Control Document for Request for Proposal | 1Q | | | | | | |
| Milestone B | 4Q | | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 150234 | 60692 | 51892 | 7605 | 88 | 21161 | 92 | Continuing | Continuing |
| C03 INTERIM ARMORED VEHICLE (IAV) FAMILY | 150234 | 60692 | 51892 | 7605 | 88 | 21161 | 92 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Project C03: A critical need exists for a Stryker vehicle equipped 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). This system supports the Stryker Brigade Combat Team (SBCT) transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 143296 | 61377 | 52429 |
| Current Budget (FY 2005 PB) | 150234 | 60692 | 51892 |
| Total Adjustments | 6938 | -685 | -537 |
| Congressional program reductions | | -578 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 6938 | -107 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -537 |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 150234 | 60692 | 51892 | 7605 | 88 | 21161 | 92 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports the development of the Stryker vehicles. A critical need exists to improve the deployability and operational effectiveness of rapid response/early entry forces. The Stryker equipped 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 is for integration of the mission equipment packages that make each platform unique and effective, and for vehicle testing to include developmental, production qualification, live fire and initial operational testing. This system supports the Stryker Brigade Combat Team (SBCT) transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | 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. | 46097 | 24164 | 14602 |
| 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. User Excursion (UE) and Limited User tests on MC, MGS and NBCRV and separate Live Fire Test & Evaluation (LFT&E), Initial Operational Testing and Evaluation (IOT&E), and Production Qualification Test (PQT) on NBCRV and MGS. | 97218 | 27862 | 34137 |
| Government Systems Engineering and Program Management | 2987 | 3104 | 3153 |
| Training Devices | 3932 | 3797 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY04 Small Business Innovative Research Program/Small Business Technology Transfer Program SBIR/STTR | 0 | 1765 | 0 |
| Totals | 150234 | 60692 | 51892 |

| **B. Other Program Funding Summary** | 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 | 780076 | 982681 | 905074 | 951341 | 770199 | 76422 | 168893 | 761800 | 6049801 |
| PA, OPA, W61900 IAV APPLIQUE* | 29211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46123 |

*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 640 vehicles through the 4th qtr of FY03; concurrently; the program has completed Initial Operating Test and Evaluation (IOT&E) for the 8 variants with Live Fire testing ongoing. A successful MS III DAB approval in 2nd qtr FY04 for eight of the ten Variants is anticipated. The remaining two variants are the NBCRV and the MGS. Both variants are scheduled for LRIP approval by the DAB no earlier than the 3rd qtr FY04. The remaining RDT&E will complete development on the NBCRV and MGS and a limited scope IOT&E for each vehicle for their entry in MS III. 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(R3)

**February 2004**

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 | GDLS Sterling Heights, MI* | 231994 | 40948 | 2Q | 11582 | 2Q | 8202 | 2Q | 23124 | 315850 | 314085 |
| b . GFE | Requisition | Various | 851 | 0 | | 0 | | 0 | | 0 | 851 | 851 |
| c . Prototype Development (8) | Firm Fixed Price | GM GDLS DG L.L.C Shelby, MI | 29215 | 0 | | 0 | | 0 | | 0 | 29215 | 29215 |
| d . Training Devices | MIPR | PEO-STRI, Orlando, FL | 3775 | 3932 | 3Q | 3797 | | 0 | | 0 | 11504 | 11504 |
| e . Miscellaneous Contractor Support | | | 1246 | 0 | | 0 | | 0 | | 0 | 1246 | 1246 |
| | | | | | | | | | | | | |
| Subtotal: | | | 267081 | 44880 | | 15379 | | 8202 | | 23124 | 358666 | 356901 |

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.

*Effective February 2003, General Motors Defense was acquired by General Dynamics Land Systems. A Ground Combat Systems unit at GDLS was organized integrating the Stryker program offices at Sterling Heights, MI, London, Ontario, and Goleta, CA, into one Stryker Program office managed out of Sterling Heights, MI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 11115 | 2362 | 2Q | 2441 | 2Q | 2480 | 2Q | 1260 | 19658 | 19658 |
| b . Source Selection Board | | | 2300 | 0 | | 0 | | 0 | | 0 | 2300 | 2300 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13415 | 2362 | | 2441 | | 2480 | | 1260 | 21958 | 21958 |

| 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 | 25623 | 45642 | 2-3Q | 16241 | 2-3Q | 3241 | 2-3Q | 1312 | 92059 | 92059 |
| 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 | 3735 | 0 | | 0 | | 0 | | 0 | 3735 | 3735 |
| d . Live Fire Test & Evaluation | MIPR | Army Test Center, Army Research Lab, Army Evaluation Center - Various | 6218 | 6389 | 2-3Q | 3648 | 2-3Q | 5305 | 2-3Q | 0 | 21560 | 21560 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 11221 | 45187 | 2Q | 7973 | 2-3Q | 25591 | | 2565 | 92537 | 92537 |
| f . Contractor Support to Test | CPFF | GM GDLS DG L.L.C. Shelby, MI | 15265 | 5149 | 2Q | 14347 | 2Q | 6400 | 2Q | 0 | 41161 | 41161 |
| | | | | | | | | | | | | |
| Subtotal: | | | 63180 | 102367 | | 42209 | | 40537 | | 3877 | 252170 | 252170 |

| 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 | 7376 | 625 | 1-2Q | 663 | 1-2Q | 673 | 1-2Q | 685 | 10022 | 10022 |
| b . Consultant Contract PM Support | Competitive /Various | ICI, Camber, Warren, MI | 2038 | 0 | | 0 | | 0 | | 0 | 2038 | 2038 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9414 | 625 | | 663 | | 673 | | 685 | 12060 | 12060 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 353090 | 150234 | | 60692 | | 51892 | | 28946 | 644854 | 643089 |

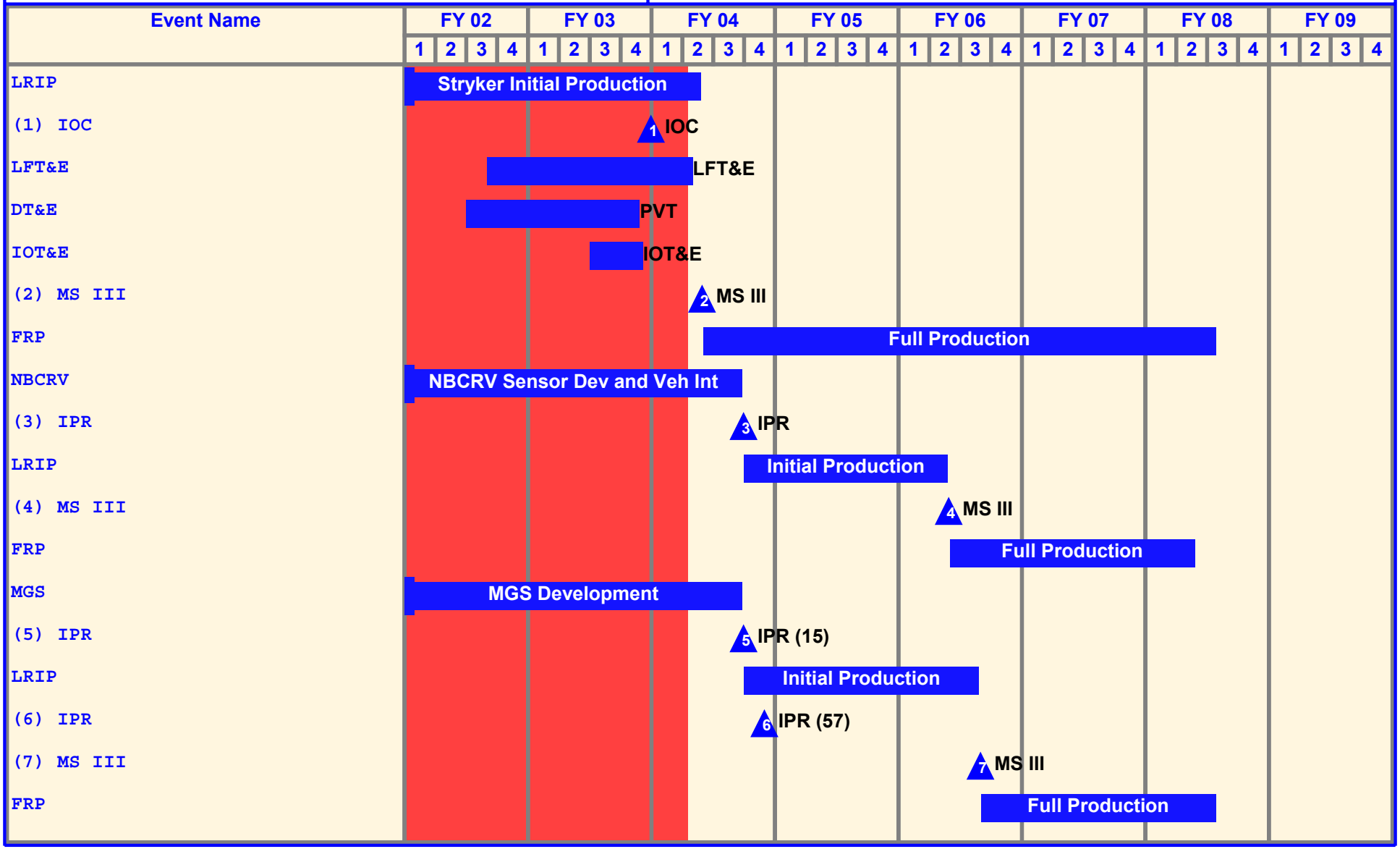
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**C03**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Final Production Technical Data Package Available | | | | | | | |
| First Vehicle Delivery (ICV) | | | | | | | |
| Begin Testing of Vehicles | | | | | | | |
| First Unit Equipped (Battalion -) | 2Q | | | | | | |
| Planned Initial Operational Capability (IOC) | 4Q | | | | | | |
| Planned Milestone III | | 2Q | | | | | |

Reflects current program schedule.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 19664 | 13833 | 13810 | 11705 | 11013 | 13144 | 13392 | Continuing | Continuing |
| 610 | FOOD ADV DEVELOPMENT | 3509 | 3729 | 4017 | 3402 | 2681 | 3591 | 3655 | Continuing | Continuing |
| 669 | CLOTHING AND EQUIPMENT | 4567 | 8766 | 9594 | 8105 | 8134 | 9355 | 9540 | Continuing | Continuing |
| C09 | SOLDIER SUPPORT EQUIPMENT - AD | 11588 | 1338 | 199 | 198 | 198 | 198 | 197 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program element supports component development and prototyping for organizational equipment, improved individual clothing and equipment that enhance Soldier battlefield effectiveness, survivability, and sustainment. The program element supports the development of personnel parachutes to improve safety and efficiency of airborne operations; also, the component development and prototyping of joint service food and combat feeding equipment designed to reduce logistics burden.

This program supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 19558 | 13987 | 12213 |
| Current Budget (FY 2005 PB) | 19664 | 13833 | 13810 |
| Total Adjustments | 106 | -154 | 1597 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 106 | -154 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 1597 |

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

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

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 3509 | 3729 | 4017 | 3402 | 2681 | 3591 | 3655 | Continuing | Continuing |

**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 four Services, as part of an integrated Department of Defense (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 Future Force Capabilities: Joint Expeditionary Mindset by maintaining readiness through fielding and integrating new equipment, that enhances the field soldier's well-being and providing soldier usable equipment, and 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 Stryker Brigade Combat Team (SBCT) and Future Capabilities for projecting and sustaining Joint Expeditionary Forces.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Procured and tested flexible Insulated Food Containers (IFCs), plastic insert pans for IFCs, disposable liners and new non-stick coatings are improvements to the field feeding system, reported results which transitioned to services where applicable. | 41 | 0 | 0 |
| FY 03: Continued improvement efforts to increase variety, enhance acceptability, increase consumption and improve nutritional intake to maintain peak performance on the battlefield. Conducted comprehensive field evaluations of the Unitized Group Ration (UGR) Heat and Serve (H&S) and UGR A. Accelerated development and transition of the UGR B for the Marine Corps. Developed and transitioned short order complement to the UGR-A for OCONUS use. FY 04-05: 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. Develop optimized user labeling for the UGR H&S. Inititate development of UGR H&S Surge Procurement database. | 679 | 766 | 917 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Continued efforts to investigate the practicality and field suitability of converting from ten cylindrical cans to Institutional Sized Pouches (ISPs) for group-serving rations, in particular as a military surge option. Obtained additonal prototype pouch materials and ISP product samples and continued testing. Identified optimal pouch construction for maximized military durability. FY 04: 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 (e.g. peacetime and/or surge option) and transition to procurement. | 151 | 284 | 0 |
| FY 03: Completed field test of new Meal Ready to Eat (MRE) entrees and components. Completed industry evaluation of Health Hazard Assessment and control points for shelf stable sandwich. Completed operational ration accelerated storage evaluations and continued improvement of individual rations to improve quality and warfighter acceptability. FY 04-05: 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. Conduct advanced development of new brick packaging and easy open peelable seal for meal, cold weather/long range patrol ration with focus on reducing Operation and Support (O&S) costs. Conduct advanced development of nutrient supplementation fortification for operational rations. | 953 | 864 | 1143 |
| FY 03: Continued storage studies and determined correlation and validation protocols for accelerated rations storage to reduce cost and ensure that operational requirements are met. FY 05: Continue storage studies of stored items and develop predictive protocols for accelerated storage of rations and transition recommended changes to procurement documents. Initiate efforts to provide Veterinary Command (VETCOM) storage guidelines that correlate commercial use-by dates with Unitized Group Ration (UGR) shelf life requirements and develop a predictive model using accelerated storage data. | 202 | 0 | 213 |
| FY 03: Completed fabrication of two 8x8x10 refrigerated containers for the Marine Corps and conducted development testing to verify technical requirements. Modified containers as a result of tests and transition into System Development and Demostration (SDD). | 253 | 0 | 0 |
| FY 03: Conducted Milestone B decision, finalized the Request For Proposals (RFP), and conducted technical evaluation of contractor proposals for award of a combined Research and Development (R&D) and production contract for the design and fabrication of a prototype Multi-Temperature Refrigerated Container (MTRC). | 394 | 0 | 0 |
| FY 04: Complete development, fabricate prototypes, and conduct contractor testing of the prototype Multi-Temperature Refrigerated Container (MTRC). | 0 | 300 | 0 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Designed and fabricated a Single Pallet Expeditionary Kitchen (SPEK) which uses commercial food service equipment. Conducted technical and user tests, prepared technical data package for transition to the Air Force. | 173 | 0 | 0 |
| FY 05: Conduct developmental and operational testing and obtain a production decision on the Multi-Temperature Refrigerated Container. | 0 | 0 | 360 |
| Completed field evaluation of biocide agents and sanitizing wipes for enhanced field feeding sanitation. | 122 | 0 | 0 |
| FY 04: Conduct technical testing and prepare performance specification for the advanced design refrigeration 1200 cubic foot for the Air Force. Transition to procurement. | 0 | 203 | 0 |
| Obtain Milestone B. Prepare and release performance specification and RFP for the development of the Battlefield Kitchen. | 0 | 0 | 134 |
| FY 03: Designed and procured prototype shipboard freezer space to accommodate the transition to advanced foods and support shortages in mission endurance loading requirements, using modular technology. FY 04: Install and test the Shipboard Modular Refrigerator on an aircraft carrier selected by the Navy. Prepare specification for use in Navy procurement. | 183 | 177 | 0 |
| FY 03: Designed and built a sanitation steam heater using a high temperature cast alloy fire chamber to provide steam, hot water for beverages and warm water for hand wash. Conducted technical and user tests. FY 04: Prepare technical data package and transition to the Air Force for procurement. | 176 | 188 | 0 |
| FY 05: 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 | 378 |
| FY 04: 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 RUSHM and transition performance-based contract requirements to procurement. | 0 | 398 | 380 |
| FY 04: Conduct Developmental/Operational testing of prototype storage/dosing system(s) for fresh fruits and vegetables. | 0 | 188 | 0 |
| FY 03: Completed evaluation of nanocomposite-enhanced barrier layer for current polymeric tray design, monolayer tray design and other enhancements to optimize polymeric tray producibility, cost, shelf life, utility in the field and survivability in frozen environments. Transitioned incremental poly tray design improvements and optimized seal quality criteria into the item performance specification for greater overall tray utility and producibility. Leveraged Defense Logistics Agency Manufacturing Technology (DLA MANTECH) efforts to optimize poly tray producibility by providing technical support to tray flange coining, ultrasonic sealing and non-destructive test method projects. | 182 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 04: Review ice makers presently used on Navy ships. Procure and evaluate commercial icemakers, down select and test on sea vessels. Prepare specification, and list acceptable products in the Navy Food Service Catalog. | 0 | 252 | 0 |
| FY 05: Award contract for the development of lightweight sanitation components for the field food sanitation system. | 0 | 0 | 217 |
| FY 05: Initiate development of an integrated power co-generator for mobile field kitchens to reduce operating and support costs. | 0 | 0 | 275 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 109 | 0 |
| Totals | 3509 | 3729 | 4017 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.548, Military Subsistence System | 1711 | 1964 | 2034 | 2450 | 2923 | 2441 | 2439 | Continuing | Continuing |
| OPA 3, M65801, Refrigerated Containers | 0 | 0 | 5884 | 9216 | 9169 | 9444 | 9761 | Continuing | Continuing |

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1490 | 1-4Q | 1530 | 1-4Q | 1515 | 1-4Q | Continue | 23475 | Continue |
| b . Joint Service Food/Combat Feeding Equipment | Contracts | Various | 7353 | 1373 | 1-3Q | 1491 | 1-4Q | 1474 | 1-4Q | Continue | 11691 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 26293 | 2863 | | 3021 | | 2989 | | Continue | 35166 | 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(R3)

**February 2004**

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 | 579 | 1-4Q | 665 | 1-4Q | Continue | 5111 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3302 | 565 | | 579 | | 665 | | Continue | 5111 | 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 | 129 | 1-4Q | 363 | 1-4Q | Continue | 2067 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1494 | 81 | | 129 | | 363 | | Continue | 2067 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 31089 | 3509 | | 3729 | | 4017 | | Continue | 42344 | Continue |

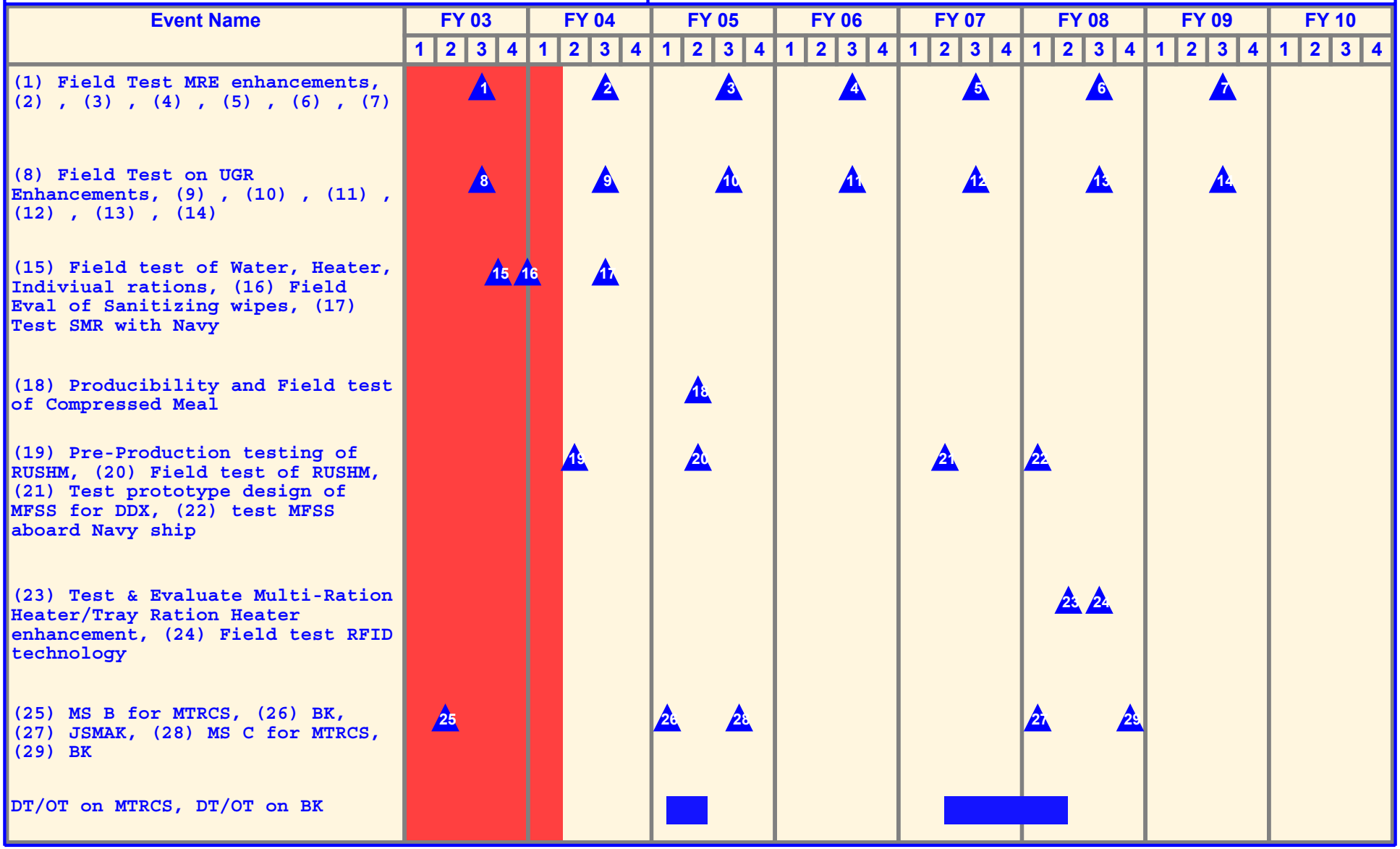
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**610**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct field test on Meals Ready to Eat (MRE) enhancements. | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q |
| Transition new Individual rations to DSCP and Services. | 4Q | 4Q | 4Q | 4Q | 4Q | 4Q | 4Q |
| Conduct field test on UGR enhancements. | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q | 3Q |
| Transition new Group Rations to DSCP and services. | 4Q | 4Q | 2Q | 2Q | 2Q | 2Q | 2Q |
| Conduct field test of Water, Heater, Individual rations. | 3Q | | | | | | |
| Transition Technical Data Package (TDP) of Water Heater to DSCP. | 4Q | | | | | | |
| Complete fabrication and testing of 8x8x10 Refrigerated Container. | 3Q | | | | | | |
| Develop design for SPEK and complete technical tests. | 3-4Q | | | | | | |
| Conduct field evaluation of sanitizing wipes. | 4Q | | | | | | |
| Design and procure additional Shipboard Modular Refrigerator (SMR). | 3Q | | | | | | |
| Test SMR with Navy. | | 3Q | | | | | |
| Draft specification of SMR for use in Navy procurement. | | 3Q | | | | | |
| Fabricate prototype sanitation steam heater. | 3Q | | | | | | |
| Prepare TDP for sanitation steam heater and transition to Air Force. | | 4Q | | | | | |
| Complete producibility and field test of Compressed Meal. | | | 2Q | | | | |
| Conduct pre-production testing of Remote Unit Self Heating Meal (RUSHM). | | 2Q | | | | | |
| Conduct field test of RUSHM and transition to procurement. | | | 2Q | | | | |
| Procure and test commercial items for sea vessels. | | 3Q | | | | | |
| Test prototype design of Modular Food system for DDX. | | | | | 2Q | | |
| Test Modular Food Service System aboard Navy ship. | | | | | | 1Q | |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Transition the Modular Food Service System for DDX to Navy. | | | | | | 4Q | |
| Test new equipment and systems for shipboard and submarine feeding. | | | | 3Q | 3Q | 3Q | |
| Transition new equipment and systems to Navy for shipboard and submarine feeding. | | | | | 3Q | 3Q | 3Q |
| Prepare TDP and transition Surface Scanning Biosensor to VETCOM. | | | | 4Q | | | |
| Transition performance contract requirements for Tamper Evident Packaging to DSCP and services. | | | | | | 4Q | |
| Test and evaluate Multi-Ration Heater/Tray Ration Heater enhancements. | | | | | | 2Q | |
| Conduct field tests on Radio Frequency Identification (RFID) technology. | | | | | | 3Q | |
| Transition heat-driven refrigerator to advanced development. | | | | 1Q | | | |
| Transition component shelf life guidelines correlated to commercial use by dates to VETCOM. | | | | 4Q | | | |
| Transition the Compressed Meals to DSCP for procurement. | | | | 4Q | | | |
| Transition Lightweight Insulated Food Containers to procurement. | | | | | 4Q | | |
| Integrate Hydrogen Management System to RUSHM. | | | | 1Q | | | |
| Complete demonstrations of Modular Individual Water Heater and transition to MEP/SEP. | | | | 4Q | | | |
| Complete Technical Demonstration (TD) of Flameless Combustion. | | | | | | | 4Q |
| Complete TD of Thermoelectric Water Heater Chiller and transition to Future Combat Vehicle (FCV). | | | | | 1Q | | |
| Complete technical demonstration of Durable Nonstick Coatings. | | | | 4Q | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Transition Beverage Chiller to Advanced Development. | | | | | | 1Q | |
| Complete technical demonstration of Solar Powered Refrigerated Container. | | | | | | | 4Q |
| Conduct Milestone B for Battlefield Kitchen (BK). | | | 1Q | | | | |
| Award contract for design and fabrication of BK. | | | | 1Q | | | |
| Initiate DT of BK. | | | | | 2Q | | |
| Complete DT of BK. | | | | | 4Q | | |
| Initiate OT of BK. | | | | | | 1Q | |
| Complete OT for BK. | | | | | | 2Q | |
| Conduct Milestone C for BK. | | | | | | 4Q | |
| Conduct Milestone B for Joint Service Modular Kitchen System (JSMAK). | | | | | | 1Q | |
| Conduct Milestone B for Multi Temp Refrigerated Container System (MTRCS). | 2Q | | | | | | |
| Conduct DT and OT on the MTRCS. | | | 1-2Q | | | | |
| Complete Milestone C for the MTRCS. | | | 3Q | | | | |

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

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 4567 | 8766 | 9594 | 8105 | 8134 | 9355 | 9540 | Continuing | Continuing |

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Advanced Combat Uniform (ACU)-Completed initial testing and commenced developmental contract. | 2126 | 3173 | 3090 |
| Modular Boot System-Obtained concept items and initiated technical testing. Prototype purchase planned for extended user evaluation. | 298 | 786 | 1080 |
| Improved Small Arms Protective Insert (SAPI)-Investigate lighter, more producible ceramic materials for increased ballistic protection. | 576 | 2080 | 1270 |
| Individual Water Purification/Generation System-Conducted market survey and evaluated the availability of technology to allow individual soldiers to purify/generate water. | 124 | 0 | 0 |
| NBC Compatible Drink System-Achieve Milestone A/B, solicit sample items from industry, and initiate technical testing. | 0 | 111 | 1036 |
| Military Eye Protection System (MEPS)-Completed independent operational testing of MEPS non-laser configurations. | 1331 | 0 | 0 |
| Glove Enhancement Initiative-Conduct technical testing, and provide engineering support. | 112 | 390 | 254 |
| Combat Vehicle Crewman (CVG) NVG Mount-Prototype development. | 0 | 844 | 0 |
| Cold/Wet Trouser Parka (CWTP)-Engineering support, technical testing and procure test items for side by side comparison. | 0 | 596 | 0 |
| Light Duty Utility Glove-Conduct DT/OT testing. | 0 | 256 | 0 |
| Silk Weight Environmental Protection-Type classify and establish logistic support. | 0 | 280 | 0 |
| Ballistic Protective Technology Advancements-Investigate lighter, less expensive, superior performance eyewear and footwear. | 0 | 0 | 2731 |
| Encapsulated Chemical Protective Ensemble Enhancements-Conduct Certification and standards qualification experiments. | 0 | 0 | 133 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 250 | 0 |
| Totals | 4567 | 8766 | 9594 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.L40, Clothing and Equipment | 4391 | 3068 | 5347 | 7940 | 8927 | 9154 | 9073 | Continuing | Continuing |
| OMA, 121017, Central Funding and Fielding | 419923 | 88778 | 141770 | 136115 | 161051 | 159302 | 115700 | Continuing | Continuing |

**C. Acquisition Strategy:** Programs will transition to System Development and Demonstration (SDD).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2278 | 1578 | 2Q | 3089 | 2Q | 4607 | 2Q | Continue | 11552 | Continue |
| b . Clothing & Individual Equipment | Contracts | Various | 6402 | 1275 | 2Q | 2654 | 2Q | 2622 | 2Q | Continue | 12953 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 8680 | 2853 | | 5743 | | 7229 | | Continue | 24505 | 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 . Misc Support | MIPR | LOGSA, AL | 150 | 50 | 2Q | 133 | 2Q | 200 | 2Q | Continue | 533 | Continue |
| b . Misc Support | Contract | Various | 0 | 200 | 2Q | 550 | 2Q | 600 | 2Q | 0 | 1350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 150 | 250 | | 683 | | 800 | | Continue | 1883 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1048 | 564 | 2Q | 1415 | 2Q | 615 | 2Q | Continue | 3642 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1048 | 564 | | 1415 | | 615 | | Continue | 3642 | 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 . In-House Support | | PM-CIE Soldier Equipment, Ft Belvior VA | 800 | 900 | 1-4Q | 925 | 1-4Q | 950 | 1-4Q | 0 | 3575 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 800 | 900 | | 925 | | 950 | | 0 | 3575 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 10678 | 4567 | | 8766 | | 9594 | | Continue | 33605 | Continue |

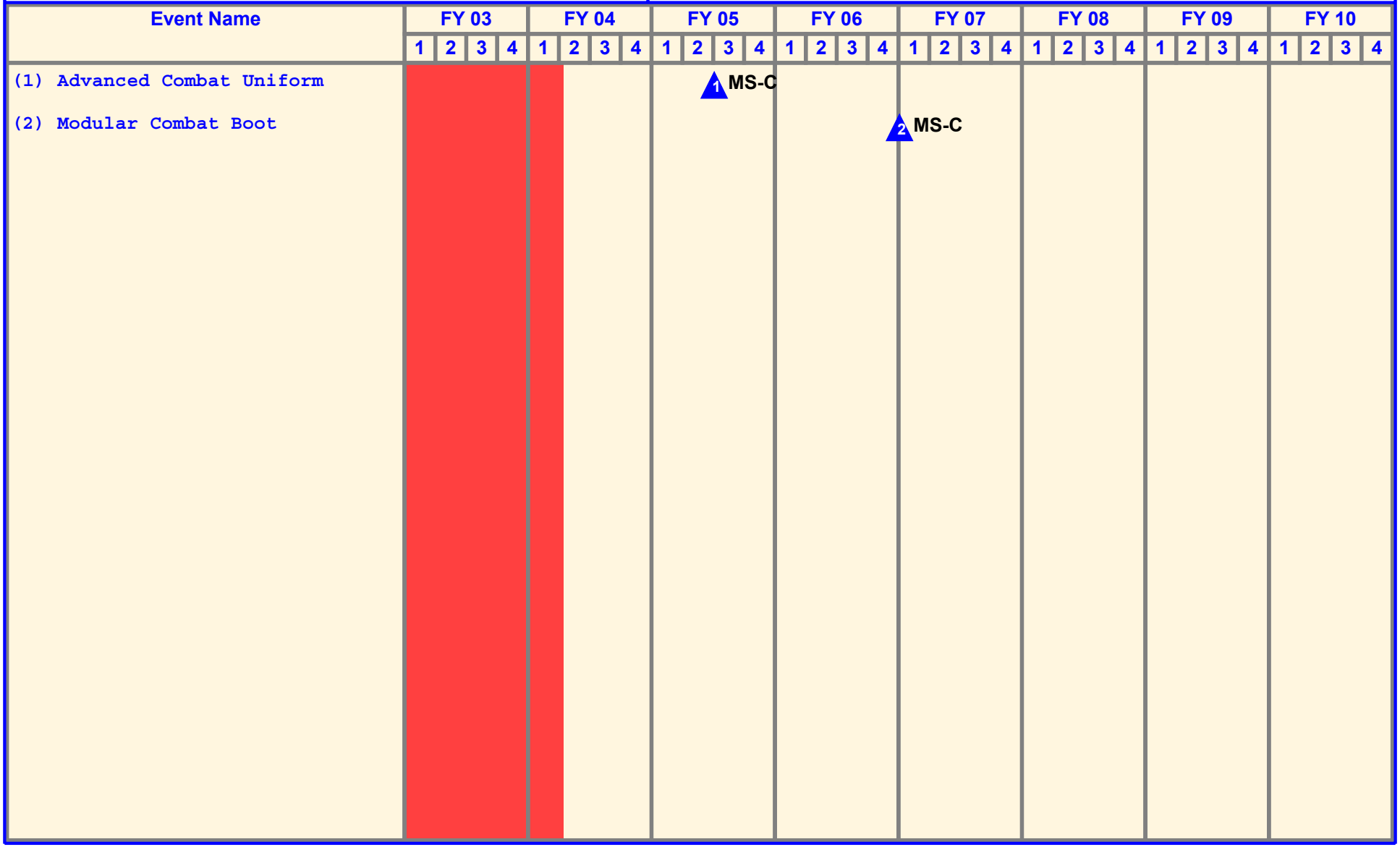
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**669**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Advanced Combat Uniform MS C | | | 3Q | | | | |
| Modular Combat Boot MS C | | | | | 1Q | | |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 11588 | 1338 | 199 | 198 | 198 | 198 | 197 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project historically supported 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. This project supports advanced component development 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. This project supports the Current to Future transition path of the Army's Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Prepared Milestone A decision and contract solicitation to develop initial test prototypes of Mobile Integrated Remains Collection System (MIRCS). | 1221 | 0 | 0 |
| Purchased initial developmental test items and data items for Extraction Parachute Jettison System (Heavy) EPJS(H). Awarded contracts for EPJS-H component development. | 2776 | 0 | 0 |
| Completed Market Survey for Cargo Bed Covers (CBC) Type 5 and 6. | 544 | 0 | 0 |
| Purchased data rights for Advanced Tactical Parachute System (ATPS). | 1427 | 0 | 0 |
| Procure Developmental Testing (DT) test items, conduct testing, and conduct Milestone B for ATPS Automatic Activation Device (AAD). | 0 | 1299 | 0 |
| Initiate product improvements to ATPS Operational Requirements Document (ORD) objectives not met during initial design due to technology limitation. | 0 | 0 | 199 |
| Completed Milestone B for Space Heater Convective 60K British Thermal Unit (BTU). | 1000 | 0 | 0 |
| Awarded developmental contract for Low Cost Aerial Delivery System (LCADS) components. | 2000 | 0 | 0 |
| Fabricated prototypes of Large Capacity Field Heater (LCFH) and conducted initial evalutation of operational suitability. | 833 | 0 | 0 |
| Fabricated urgent requirement of the Trailer Mounted Shelter System (TMSS) prototype. Conducted intital testing and evaluation of TMSS. | 287 | 0 | 0 |
| Completed Market Investigation and consolidated existing data to support a Milestone A Decision on the Precision Airdrop System. Conducted initial testing to evaluate integrated technologies and assess integration risks. | 1500 | 0 | 0 |
| Small business Innovative Research/Small Business Technology Transfer Programs. | 0 | 39 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 11588 | 1338 | 199 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604713.C40, Soldier Support Equipment | 11003 | 2860 | 574 | 297 | 298 | 298 | 297 | Continuing | Continuing |
| PMA/804, Advance Tactical Parachute Delivery System (ATPS) | 0 | 4856 | 14288 | 39644 | 41054 | 41898 | 43901 | Continuing | Continuing |

**C. Acquisition Strategy:** Systems will progress to System Development & Demonstration.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1540 | 1-4Q | 1338 | 3-4Q | 199 | | Continue | 21563 | 0 |
| b . Cecom - Ft Belvoir | Contracts | Various | 0 | 537 | | 0 | | 0 | | Continue | 537 | 0 |
| c . Soldier Support Equipment | Contracts | Various | 14886 | 3760 | 2Q | 0 | | 0 | | Continue | 18646 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 33372 | 5837 | | 1338 | | 199 | | Continue | 40746 | 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(R3)

**February 2004**

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 | 3201 | 1-4Q | 0 | | 0 | | 0 | 10156 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6955 | 3201 | | 0 | | 0 | | 0 | 10156 | 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 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 | 11588 | | 1338 | | 199 | | Continue | 57392 | 0 |

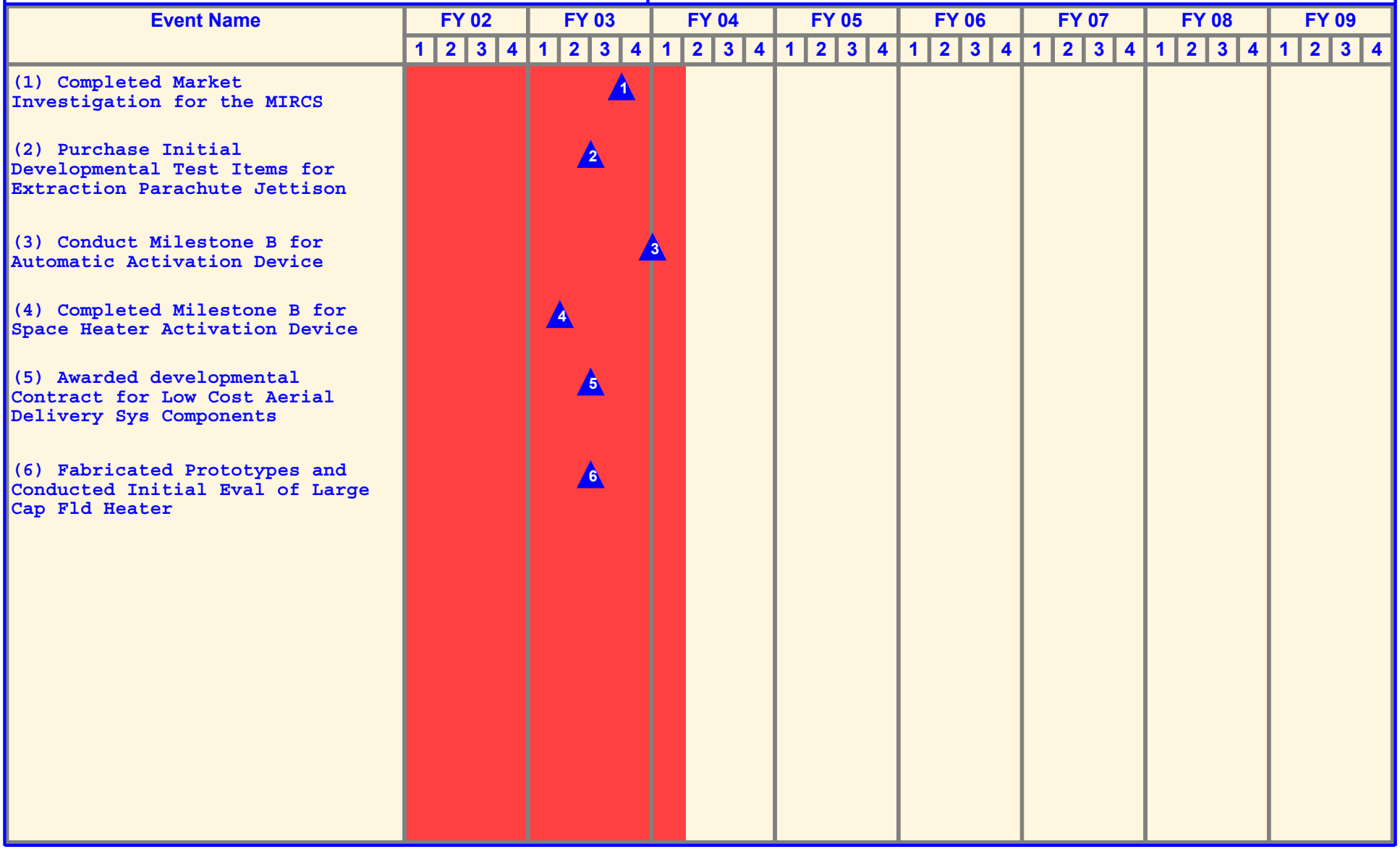
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**C09**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Completed Market Investigation for the Mobile Integrated Remains Collection System (MIRCS). | 4Q | | | | | | |
| Purchased initial developmental test items for Extraction Parachute Jettison System (Heavy). | 3Q | | | | | | |
| Conduct Milestone B for Automatic Activation Device (AAD). | | 1Q | | | | | |
| Completed Milestone B for Space Heater Convective. | 2Q | | | | | | |
| Awarded developmental contract for Low Cost Aerial Delivery System components. | 2Q | | | | | | |
| Fabricated prototypes and conducted initial evaluation of Large Capacity Field Heater. | 3Q | | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| 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 2003 Actual | 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 | 16112 | 16878 | 15441 | 15278 | 15902 | 16538 | 19105 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** A. Mission Description and Budget Item Justification: Integrate National and Theater capabilities into the tactical army architecture and force structure to support intelligence targeting and situational awareness. The mission is to define requirements and endeavor to get them integrated into the national/theater architectures/requirements and CONOPS. This involves an extensive amount of studies, simulations and experiments in coordination with multiple programs and commands. In the short term the mission is to evaluate current National developmental technology and potential CONOPS then integrating these items into TENCAP systems/architectures/CONOPS. In the long run it is influencing the type/direction of National technological/CONOPS development to meet objective forces requirements.

Capabilities developed will be incorporated into the Tactical Exploitation System (TES), Division TES (DTES), TES Lite, 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 Future Force transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Pursue technology to refine the TENCAP common baseline, fully exploiting national and theater capabilities to meet emerging worldwide contingency scenarios. Effort includes experimentation, SIGINT, IMINT, communications, and Measurement and Signature Intelligence (MASINT) processing initiatives. | 12774 | 13432 | 12074 |
| Support ASPO program management for administrative activities. | 3338 | 3446 | 3367 |
| Totals | 16112 | 16878 | 15441 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 16107 | 17068 | 16079 |
| Current Budget (FY 2005 PB) | 16112 | 16878 | 15441 |
| Total Adjustments | 5 | -190 | -638 |
| Congressional program reductions | | -160 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 5 | -30 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -638 |

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

**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(R3)

**February 2004**

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 | 3338 | 1-4Q | 3446 | | 3367 | | Continue | 13452 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3301 | 3338 | | 3446 | | 3367 | | Continue | 13452 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 16112 | | 16878 | | 15441 | | Continue | Continue | Continue |

| Schedule Detail (R4a Exhibit) | February 2004 |
|---|---|

| 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 (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 10984 | 7005 | 14047 | 8407 | 6792 | 4991 | 4147 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Future Force Units of Action/Employment (FF UA/UE) and Future Combat System (FCS). Efforts include the development of an uncooled infrared imaging "B-Kit" to integrate this technology across many FF systems for lower costs for production, fielding and maintenance. 3rd Gen high performance thermal imaging technology will allow simultaneous operation in the mid and long wavelength infrared bands for significantly improved ranges for acquisition of enemy forces. The addition of laser designation capability to advanced EOIR UAV payloads will give FCS and FF UA/UE the ability for precision engagement of targets without endangering friendly forces. Sense Through The Wall (STTW) technology will improve survivability and lethality of UA/UE troops in urban environments by allowing them to detect motion through buildings and other man-made objects. This effort will be pursued in two realms, Unattended Ground Vehicle mounted for close-in and a manned ground vehicle mounted stand-off mode for infantry and intelligence missions. The Unattended Ground Sensors (UGS) effort was used to support Demonstration/Testing for DARPA's Micro-Internetted UGS program, a Measurement and Signature Intelligence (MASINT) Phenomenology study, and modeling and simulation activities in support of FCS, and development of future technology enhancements through a spiral development process. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the FF and FCS requirements documents. This will include the ability for sensors to accomplish foliage penetration (FOPEN), Aided Target Recognition (ATR), and Close Surveillance Support System for 360 degree situational awareness for vehicles. FOPEN will allow UA/UE troops to discern enemy positions under the cover of trees and other natural cover. ATR will provide the FF unprecedented capability in automatic target hand-off. Close Surveillance Support System will allow any future vehicle crew member to see outside the vehicle in day or night without the blind spots created by armor. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats to the lighter FCS combat vehicles. FF Theater Support Vessel sensor requirements will include sensor concept studies on its hydrographic survey requirements, allowing ships to detect uncharted obstacles in the waterways and unimproved ports. This also has application to all Army shallow water requirements (fording, bridge placement, riverine) and intratheater movement. Multi-mode Radar (MMR), which has broad applications to the FF including FCS will be ready for concept study beginning in FY06. Capabilities of this type of radar include air traffic control, air defense, fire control and counter battery for missile and artillery on the same platform. Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying RPGs, and identification of Improvised Explosive Devices (IED) and suicide bombers. Division Tactical SIGINT Payload (DTSP) has been renamed to Tactical SIGINT Payload (TSP). TSP is an Unmanned Aerial Vehicle 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. 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), Aerial Common Sensor (ACS)] to provide precise targeting information in near real time (NRT).

The TSP Component Advanced Development (CAD) phase is focused 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 TSP is covered under PE/Project 35204/11B beginning in FY04.
This project supports the Current to Future Force transition path of the Transformation Campaign Plan.
FY05 funding supports MMR, continuing STTW, UGS, FOPEN, ATR, and Close Surveillance Support System as well as emerging concepts of route reconnaissance, battle damage assessment, detection of personnel with RPGs, IEDs, and suicide bombers. FY05 funding also supports the Joint Unique Identification program-will be moved to new PE when established.

| **Accomplishments/Planned Program** | 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, power, and volume. FY03 effort began establishment of technical specifications, producibility and timelines across FCS and Future Force systems for a Risk Reduction Demonstration decision in FY04. | 1779 | 1785 | 0 |
| Advanced EOIR Payload with Laser Designator - conduct markert survey and perform flight evaluation of potential solution for advanced UAV Payloads incorporating Laser Designation capability | 0 | 789 | 0 |
| Cooled IR Integrated Sensor Suites for Future Combat System of Systems (CIRISS for FCS) – Combine infrared, radar and other sensors for full FCS mast mounted suite. Concept development consisted of transition to FCS and assistance to the LSI with CTD activities. | 441 | 0 | 0 |
| Sense Through The Wall 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. Effort includes Congressional increase of $1.8M | 200 | 1851 | 622 |
| Initiate modeling and simulation activities and MASINT Phenomenology Study in support of Future Combat System and monitor technology base efforts for future integration into Unattended Ground Sensors baseline. Transitioned first phase T-UGS to FCS SDD. | 1480 | 250 | 75 |
| Emerging Concepts – Explore a range of potential technologies for FCS and the Future Force that will enable route reconnaissance, battle damage assessment, and detection of threats such as personnel with RPGs, IEDs, and suicide bombers. | 414 | 405 | 200 |
| 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 | 130 | 1300 |
| Aided Target Recognition (ATR) - Technology to allow FCS and the Future 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 | 185 | 450 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Close Surveillance Support System - 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 | 1300 | 500 |
| Multi Mode Radar - initiate concept development for a mulit-mode radar that can be used for air defense, fire control, counterfire weapon location, or air traffic control. | 0 | 0 | 150 |
| 3rd Gen FLIR - Initiate Concept and Technology Development for 3rd Gen FLIR, the next generation of advanced primary reconnaissance imaging systems for the Future Force to include FCS Unit of Action. | 0 | 0 | 250 |
| Theater Support Vessel (TSV) - Perform concept studies and systems engineering for sensor systems required to recon, and maneuver in unimproved ports and maintain situational awareness of line of sight land threats by TSVs transporting future ground forces. | 0 | 106 | 0 |
| Completed TSP CAD which evaluates SIGINT payload design approaches on a UAV | 3502 | 0 | 0 |
| Conducted demonstration of payload and systems integration | 1800 | 0 | 0 |
| Establishment of Joint Unique Identification Program, with Army as executive agengy, will be moved to new PE once established. | 0 | 0 | 10500 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 204 | 0 |
| Conducted operational assessment of payload and systems integration and flight demonstrations. | 1368 | 0 | 0 |
| Totals | 10984 | 7005 | 14047 |

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 11170 | 5283 | 5227 |
| Current Budget (FY 2005 PB) | 10984 | 7005 | 14047 |
| Total Adjustments | -186 | 1722 | 8820 |
| Congressional program reductions | -186 | -66 | |
| Congressional rescissions | | | |
| Congressional increases | | 1800 | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | -12 | 8820 |

Change Summary Explanation:

FY2004: Congressional increase of $1.8M for Dominant Military Operations on Urbanized Terrain Viewer (DMV).
FY2005: Includes an increase of $10.5M for the UID program and will be reprogrammed once new PE has established.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| PE 0602709A/Night Vision and Electro-Optical Technology | 19696 | 22233 | 22420 | 24359 | 27155 | 28464 | 29997 | Continue | Continue |
| PE 0603710A/Night Vision Advanced Development | 73609 | 47088 | 54635 | 62227 | 61928 | 50942 | 48330 | Continue | Continue |
| PE 0604710A/Night Vision Devices Engineering Development | 36581 | 29022 | 24851 | 33811 | 35204 | 34560 | 10778 | Continue | Continue |

| **C. Other Program Funding Summary (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | | |
|---|---|---|---|---|---|---|---|---|---|
| K38300 LRAS3 | 46577 | 50953 | 49176 | 42293 | 1734 | 0 | 0 | 0 | 231408 |
| G80717 M2A3/M3A3 Bradley | 45966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97408 |
| GA0750 Abrams Upgrade | 18741 | 0 | 0 | 0 | 0 | 5006 | 0 | 0 | 76669 |
| GA0730 M1A2 SEP | 18238 | 0 | 0 | 0 | 0 | 16694 | 21700 | Continue | Continue |
| G86100 Future Combat System | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | Continue | Continue |
| PE 654270 EW Development (Project L12) | 25550 | 22279 | 2489 | 11451 | 14068 | 10572 | 11048 | Continue | Continue |
| BA0330 TUAV | 84290 | 108893 | 62788 | 184442 | 186298 | 0 | 0 | Continue | Continue |
| W61900 IAV | 65294 | 133996 | 87886 | 98705 | 82593 | 0 | 0 | Continue | Continue |
| PE 375204 Tactical SIGINT Payload (TSP) Development (Project 11B) | 0 | 5771 | 8975 | 12490 | 7130 | 0 | 0 | Continue | Continue |
| BZ9761 Tactical SIGINT Payload: TSP (JMIP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Continue | Continue |

**D. Acquisition Strategy:** The advances and improvements for cooled and uncooled thermal imaging sensors, radars, Sense Through The Wall systems, 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(R3)

**February 2004**

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 . Foliage Penetration efforts | T&M, MIPR | TBS | 0 | 0 | | 130 | 2Q | 976 | 1Q | Continue | Continue | Continue |
| c . CIRISS efforts | T&M | Various | 0 | 441 | 1-4Q | 0 | | 0 | | 0 | 441 | 441 |
| d . Sensor Link Protocol efforts | MIPR | Various | 105 | 0 | | 0 | | 0 | | 0 | 105 | 105 |
| e . Demo of payload & systems integration TSP | SS/CPFF | TRW, Sierra Vista, AZ | 0 | 400 | 1Q | 0 | | 0 | | 0 | 400 | 400 |
| f . 3rd Gen FLIR | TBD | TBS | 0 | 0 | | 0 | | 175 | 3Q | Continue | Continue | Continue |
| g . Close Surveillance Support System efforts | T&M | TBS | 0 | 0 | | 1101 | 3Q | 950 | 1Q | Continue | 2051 | Continue |
| h . Emerging Concepts efforts | T&M | Various | 0 | 405 | 1-2Q | 394 | 2Q | 100 | 1Q | Continue | Continue | Continue |
| i . TUAV Laser Rangefinder | C/CP | Versitron, Santa Rosa, CA | 300 | 0 | | 0 | | 0 | | 0 | 300 | 300 |
| j . Land Warrior | | | 3750 | 0 | | 0 | | 0 | | 0 | 3750 | 3750 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Award CAD Contract for TSP | C/CPFF | Applied Science Technologies, Sunnyvale, CA; BAE Nashua, NH | 9223 | 1744 | 2Q | 0 | | 0 | | 0 | 10967 | 10967 |
| l . Theater Support Vessel study | TBD | TBS | 0 | 0 | | 106 | 2Q | 0 | | 0 | 106 | 106 |
| m . ATR/ATC Activities | MIPR | Various | 462 | 0 | | 0 | | 0 | | 0 | 462 | 462 |
| n . Uncooled B-Kit Evolution/Development | C/CP, MIPR | ADC, Newington, VA; Various others | 957 | 1579 | 1-2Q | 1453 | 2Q | 0 | | 0 | 3989 | 3989 |
| o . FLIR Develop/Integrate | Various | Various | 1938 | 0 | | 0 | | 0 | | 0 | 1938 | 1938 |
| p . UAV Quieting, Etc. TSP | MIPR | TUAV Proj Office, Redstone Arsenal, AL | 900 | 0 | | 0 | | 0 | | 0 | 900 | 900 |
| q . LRAS3 /LLDR Telescopic Mast Demo | MIPR | NVESD | 685 | 0 | | 0 | | 0 | | 0 | 685 | 685 |
| r . Demo and eval of ENVG technology | Various | Various | 1778 | 0 | | 0 | | 0 | | 0 | 1778 | 1778 |
| s . Multifunction Laser Design | C/CP | Raytheon, Dallas, TX | 906 | 0 | | 0 | | 0 | | 0 | 906 | 906 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . SR2P | MIPR | NVESD | 658 | 0 | | 0 | | 0 | | 0 | 658 | 658 |
| u . Demo and eval of ANVG | Various | Various | 1320 | 0 | | 0 | | 0 | | 0 | 1320 | 1320 |
| v . Head Tracked Commander's Sight | C/CP | Various | 223 | 0 | | 0 | | 0 | | 0 | 223 | 223 |
| w . Advanced EOIR UAV Payload with Laser Designation | MIPR | NVESD | 0 | 0 | | 0 | | 150 | 2Q | Continue | Continue | Continue |
| x . Large Format Array Uncooled Thermal Sight | C/CP | (Soldier effort) | 400 | 0 | | 0 | | 0 | | 0 | 400 | 400 |
| y . Unattended Ground Sensors | Various | Various | 1497 | 1261 | 1-2Q | 212 | 2Q | 75 | 1Q | 0 | 3045 | 3045 |
| z . SBIR/STTR | | | 0 | 0 | | 204 | | 0 | | 0 | 204 | 193 |
| aa. Sense Through the wall Unmanned/Stand-Off | Various | Various | 400 | 200 | 2Q | 1807 | 2Q | 452 | 1Q | 0 | 2859 | 2867 |
| bb. Multi-mode Radar | Various | Various | 0 | 0 | | 789 | 2Q | 0 | | 0 | 789 | 789 |
| cc. Aided Target Recognition efforts | T&M | TBS | 0 | 0 | | 260 | 2Q | 200 | 1Q | 0 | 460 | 460 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| dd. Cost Benefit Analysis TUAV | MIPR and C/FP | TRAC-WSMR, NM and TBE, Huntsville, AL | 910 | 0 | | 0 | | 0 | | 0 | 910 | 910 |
| ee. Defer to ABO | | | 0 | 0 | | 0 | | 10000 | | 0 | 10000 | 10000 |
| | | | | | | | | | | | | |
| Subtotal: | | | 28738 | 6030 | | 6456 | | 13078 | | 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 | 1075 | 172 | 1Q | 178 | 2Q | 185 | 1Q | Continue | Continue | Continue |
| b . Engineering Support | FFP | CSC, Falls Church, VA | 0 | 0 | | 0 | | 370 | 2Q | Continue | Continue | Continue |
| c . Matrix Support | MIPR | CECOM Fort Monmouth, NJ | 920 | 1080 | 2Q | 0 | | 0 | | 0 | 2000 | 2000 |
| d . Engineering Support | FFP | MITRE; McLean, VA | 856 | 360 | 2Q | 0 | | 0 | | 0 | 1216 | 1216 |
| e . Engineering Support | FFP | CACI, Fort Monmouth, NJ | 1406 | 950 | 2Q | 0 | | 0 | | 0 | 2356 | 2356 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4257 | 2562 | | 178 | | 555 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**131**

| 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 |
| f . ANVG Simulation/Field Eval | MIPR | Various | 100 | 0 | | 0 | | 0 | | 0 | 100 | 100 |
| g . STTW/UGS | MIPR | Various | 525 | 232 | 2-3Q | 0 | | 0 | | 0 | 757 | 757 |
| h . Operational Assessment of TSP Flight Demos | MIPR | AEC, APG, MD | 0 | 350 | 1-4Q | 0 | | 0 | | 0 | 350 | 350 |
| i . Payload Demo and Emitter Spt Assessment | MIPR | EPG, Ft Huachuca, AZ | 0 | 1165 | 1-4Q | 0 | | 0 | | 0 | 1165 | 1165 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 2444 | 1747 | | 0 | | 0 | | 0 | 4191 | 4191 |

| 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 | 371 | 1-4Q | 414 | 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 | | 371 | | 414 | | Continue | Continue | Continue |
| Project Total Cost: | | | 36299 | 10984 | | 7005 | | 14047 | | Continue | Continue | Continue |

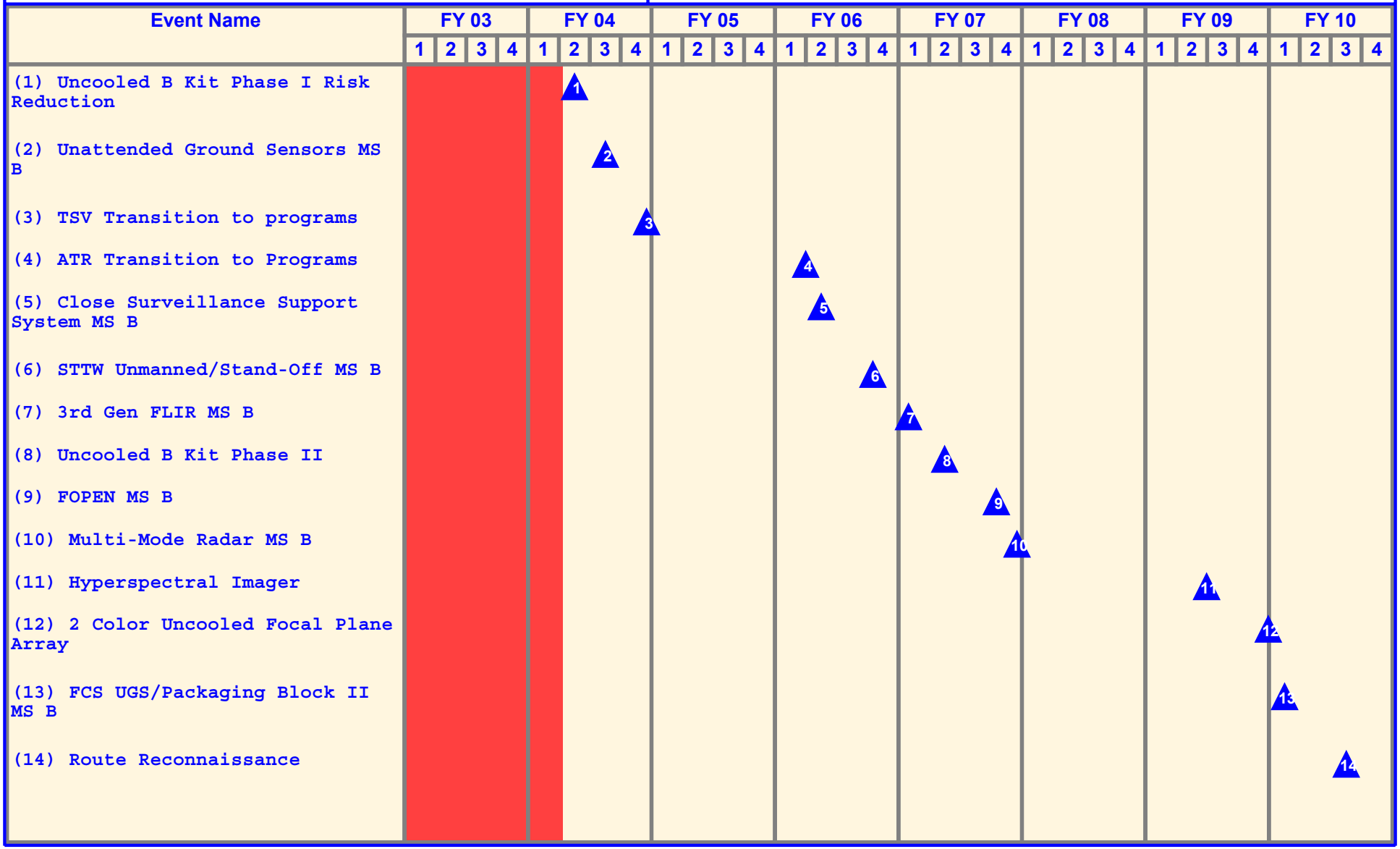
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**131**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CIRISS Block I for FCS UA | 3Q | | | | | | |
| Uncooled B Kit | | 2Q | | | | | |
| Sense Through the Wall Unmanned MS B for FCS UA | | | | 3Q | | | |
| Unattended Ground Sensors Milestone B for FCS UA | 3Q | | | | | | |
| Unattended Ground Sensors MS B for PEO-IEW&S | | 3Q | | | | | |
| Foliage Penetration Milestone B for Block II FCS | | | | | 4Q | | |
| Close Surveillance Support System Milestone B | | | | 2Q | | | |
| 3rd Gen FLIR Milestone B | | | | | 1Q | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

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

| COST (In Thousands) | | FY 2003 Actual | 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 | | 30980 | 40509 | 9356 | 9050 | 8839 | 15200 | 12327 | Continuing | Continuing |
| 035 | NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE | 4562 | 4831 | 4813 | 8871 | 8839 | 15200 | 12327 | Continuing | Continuing |
| 04E | ENVIRONMENTAL RESTORATION TECH VALIDATION | 4005 | 5284 | 3225 | 0 | 0 | 0 | 0 | 0 | 15052 |
| 04F | COMMERCIALIZATION OF TECH TO LOWER DEFENSE COSTS | 3009 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13731 |
| 04I | TECHNOLOGIES TO REDUCE NON-HAZARDOUS WASTE | 1624 | 989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 04J | ENVIRONMENTAL COMPLIANCE TECHNOLOGY VALIDATION | 199 | 1271 | 1318 | 179 | 0 | 0 | 0 | 0 | 2967 |
| 04K | WASTE MINIMIZATION AND POLLUTION PREVENTION | 1719 | 1385 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| E12 | TRANSPORTABLE DETONATION CHAMBER VALIDATION | 3344 | 4747 | 0 | 0 | 0 | 0 | 0 | 0 | 5786 |
| E14 | ENVIRONMENTAL SECURITY INITIATIVE (CA) | 0 | 3362 | 0 | 0 | 0 | 0 | 0 | 0 | 3362 |
| E15 | ARSENIC REMOVAL (CA) | 0 | 1681 | 0 | 0 | 0 | 0 | 0 | 0 | 1681 |
| E16 | ABERDEEN PG ASBESTOS CONVERSION FACILITY (CA) | 0 | 1385 | 0 | 0 | 0 | 0 | 0 | 0 | 1385 |
| E17 | ARMY ENVIRONMENTAL SOLUTIONS PROGRAM (CA) | 0 | 2473 | 0 | 0 | 0 | 0 | 0 | 0 | 2473 |
| E19 | SUSTAINABLE INSTALLATIONS INITIATIVE (CA) | 0 | 989 | 0 | 0 | 0 | 0 | 0 | 0 | 989 |
| EN1 | CASTING EMISSION REDUCTION PROGRAM (CERP) | 6307 | 3955 | 0 | 0 | 0 | 0 | 0 | 0 | 11458 |
| EN3 | MANAGING ARMY TECHNOLOGY ENVIRON ENHANCEMENTS | 955 | 3114 | 0 | 0 | 0 | 0 | 0 | 0 | 1000 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| EN6 | UNEXPLODED ORDNANCE IN SUPPORT OF MILITARY READ | 4061 | 5043 | 0 | 0 | 0 | 0 | 0 | 0 | 3400 |
| EN7 | VANADIUM TECHNOLOGY PROGRAM | 1195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1300 |

**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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 31121 | 11514 | 9454 |
| Current Budget (FY 2005 PB) | 30980 | 40509 | 9356 |
| Total Adjustments | -141 | 28995 | -98 |
| Congressional program reductions | | -384 | |
| Congressional rescissions | | | |
| Congressional increases | | 29450 | |
| Reprogrammings | -141 | -71 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -98 |

Change Summary Explanation: Funding – FY 2004: There were eleven Congressionally added projects in FY04: Technologies to Reduce Non-Hazardous Was

te; Waste Minimization and Pollution Prevention; Transportable Detonation Chamber Validation; Environmental Security Initiative; Arsenic Removal, Aberdeen Proving Ground Asbestos Conversion Facility; Army Environmental Solutions Program; Sustainable Installations Initiative, Casting Emission Reduction Program, and Managing Army Technology Environmental Enhancements.

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 4562 | 4831 | 4813 | 8871 | 8839 | 15200 | 12327 | 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Management and operations of the NDCEE by the prime contractor. | 1000 | 1000 | 1200 |
| Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. | 0 | 500 | 400 |
| Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. | 2917 | 2791 | 2813 |
| NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. | 645 | 400 | 400 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 140 | 0 |
| Totals | 4562 | 4831 | 4813 |

**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(R3)

**February 2004**

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 | 2Q | 1600 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 900 | 1000 | | 1600 | | 1600 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 ** | 0 | 2917 | | 2831 | 2Q | 2813 | 2Q | Continue | 8561 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2466 | 2917 | | 2831 | | 2813 | | Continue | 11027 | Continue |

Remarks: ** Note: There is a competitive procurement in process. Award will be made second quarter in FY04. The FY03 amount of $2.9M will be used on the first task order awarded on the new contract.

| 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 | 2Q | 400 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1342 | 645 | | 400 | | 400 | | Continue | Continue | Continue |
| Project Total Cost: | | | 4708 | 4562 | | 4831 | | 4813 | | Continue | Continue | Continue |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 4005 | 5284 | 3225 | 0 | 0 | 0 | 0 | 0 | 15052 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | 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. | 1114 | 222 | 199 |
| - Controlled and live site validation of prototype UXO Multisensor and Analysis System. | 791 | 1135 | 715 |
| - Integrate advanced sensors in prototype UXO Multisensor and Analysis System. | 1000 | 2514 | 635 |
| - Live site validation of enhanced prototype UXO Multisensor and Analysis System. | 1100 | 1260 | 1676 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 153 | 0 |
| Totals | 4005 | 5284 | 3225 |

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

**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).
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).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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. | Allot | Army Environmental Center (AEC), Aberdeen Proving Ground, MD | 500 | 650 | 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 | 2Q | 480 | 2Q | 250 | 2Q | 0 | 2464 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1250 | 1634 | | 480 | | 250 | | 0 | 3614 | 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 . Support at test site(s) to facilitate the validation of technologies, | Allot | U.S. Army ESC, Huntsville, AL; AEL, Vicksburg, MS; and ATC, Aberdeen Proving Ground, MD* | 250 | 500 | 2Q | 0 | | 0 | | 0 | 750 | 0 |
| b . In-House Development - Preparation of Test Sites | Allot | AEC | 370 | 680 | 2Q | 415 | 2Q | 635 | 2Q | 0 | 2100 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**04E**

| 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: | | | 620 | 1180 | | 415 | | 635 | | 0 | 2850 | 0 |

Remarks: *U.S. Army Engineering and Support Center, Huntsville, AL; U.S. Army Environmental Laboratory, Vicksburg, MS; and Aberdeen Test Center, Aberdeen Proving Ground, MD

| 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. | Allot | U.S. Army ESC, Huntsville, AL; AEL, Vicksburg, MS; and ATC, Aberdeen Proving Ground, MD* | 209 | 281 | 2Q | 1166 | 2Q | 581 | 2Q | 0 | 2237 | 0 |
| b . In-House Development - Planning and Execution | Allot | AEC | 261 | 510 | 2Q | 2913 | 2Q | 1416 | 2Q | 0 | 5100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 470 | 791 | | 4079 | | 1997 | | 0 | 7337 | 0 |

Remarks: *U.S. Army Engineering and Support Center, Huntsville, AL; U.S. Army Environmental Laboratory, Vicksburg, MS; and Aberdeen Test Center, Aberdeen Proving Ground, MD

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

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

PROJECT
**04E**

| 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 | 2Q | 25 | 2Q | 25 | 2Q | 0 | 350 | 0 |
| b . In-House Management (AEC) | Allot | AEC | 98 | 200 | 2Q | 285 | 2Q | 318 | 2Q | 0 | 901 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 198 | 400 | | 310 | | 343 | | 0 | 1251 | 0 |
| Project Total Cost: | | | 2538 | 4005 | | 5284 | | 3225 | | 0 | 15052 | 0 |

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

**February 2004**

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

| COST (In Thousands) | | FY 2003 Actual | 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 | 199 | 1271 | 1318 | 179 | 0 | 0 | 0 | 0 | 2967 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | 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. | 199 | 0 | 0 |
| - Demonstrate a Range Risk Assessment Model | 0 | 125 | 0 |
| - Demonstrate and validate Range Design Specifications | 0 | 1053 | 1133 |
| - Demonstrate the Munitions Carrying Capacity Model | 0 | 56 | 185 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 37 | 0 |
| Totals | 199 | 1271 | 1318 |

**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(R3)

**February 2004**

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 | 2Q | 150 | 2Q | 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 | 2Q | 50 | 2Q | 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(R3)

**February 2004**

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 | | 946 | 2Q | 993 | 2Q | 0 | 1939 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 946 | | 993 | | 0 | 1939 | 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 | 199 | | 75 | | 75 | | 0 | 349 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 199 | | 75 | | 75 | | 0 | 349 | 0 |
| Project Total Cost: | | | 0 | 199 | | 1271 | | 1318 | | 181 | 2969 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| 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 2003 Actual | 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 | 48849 | 81393 | 99645 | 140302 | 158215 | 145344 | 53074 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Warfighter Information Network-Tactical (WIN-T) is the Army's communications system for reliable, secure, and seamless video, data, imagery, and voice services that enables decisive combat actions. WIN-T will establish an environment in which commanders at all echelons will have the ability to operate with virtual staffs and analytical centers that are located at remote locations throughout the battlespace. WIN-T operates as the principal means to frame the tactical infosphere that encompasses both the Unit of Employment (UE) and Unit of Action (UA) areas of influence. Future Combat Systems (FCS), Joint Tactical Radio System (JTRS), satellite terminals and other Department of Defense (DoD) Command, Control, Communications & Computers, Intelligence (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 conforming to established standards and protocols for the network while interfacing with and/or replacing equipment in legacy and interim forces. The WIN-T outmodes Mobile Subscriber Equipment (MSE) and Tri-Services Tactical Communications (TRI-TAC) capabilities. This system supports the Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Prepare technical assessment and research studies/FCS synchronization efforts. | 551 | 773 | 4890 |
| Prepare/coordinate Request For Proposal (RFP), and Milestone B Decision documentation, perform program support and management efforts, and conduct SDR, CDR, PDR and SSEB. | 2918 | 3987 | 5640 |
| Phase 1 Pre MS B. Dual contractors develop system architectures and assess technology maturity. | 28491 | 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, MS C and production contract efforts. | 12032 | 65059 | 75255 |
| Provide test support to include modeling and simulation and Development Test/Operational Test (DT/OT). | 1606 | 3591 | 8940 |
| Provide system engineering and technical support to the WIN-T program. | 3251 | 5638 | 4920 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 2345 | 0 |
| Totals | 48849 | 81393 | 99645 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 48556 | 90774 | 75332 |
| Current Budget (FY 2005 PB) | 48849 | 81393 | 99645 |
| Total Adjustments | 293 | -9381 | 24313 |
| Congressional program reductions | | -774 | |
| Congressional rescissions | | -144 | |
| Congressional increases | | | |
| Reprogrammings | 293 | -8463 | -8326 |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 32639 |

Change Summary Explanation:
FY04 Decrease realigned Project F98 ($8463) out of this Program Element. Congressional reductions totaling $918.
FY05 Decrease of $8326 to realign Project F98 out of this Program Element. Project 355 increased $32639 due to increased operational requirements to align with Future Force resulted in increased program scope and modification to Acquisition Strategy.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| B79100 - WIN-Tactical Program (OPA) | 0 | 0 | 0 | 131080 | 109828 | 240592 | 327159 | 9713900 | 10522559 |

**D. Acquisition Strategy:** The 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 developed system architectures and assess technology maturity to support ORD blocking. A successful Milestone B was conducted on 30 Jul 03 and the Phase 2 SDD option was awarded to both contractors on 12 Aug 03. 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 (IOT) and a Government Decision Review.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 18185 | 1-2Q | 0 | | 0 | | 0 | 21185 | 0 |
| b . Phase 1 Pre MS B | CPFF/T&M | General Dynamics Government Systems Corp, Taunton, MA | 3000 | 10306 | 1-2Q | 0 | | 0 | | 0 | 13306 | 0 |
| c . Phase 2 SDD | CPFF/T&M | Lockheed Martin Mission Systems, Gaithersburg, MD | 0 | 5069 | 4Q | 31499 | 1Q | 38666 | 1Q | 0 | 75234 | 0 |
| d . Phase 2 SDD | CPFF/T&M | General Dynamics Government Systems Corp, Taunton, MA | 0 | 6963 | 4Q | 33560 | 1Q | 36588 | 1Q | 0 | 77111 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6000 | 40523 | | 65059 | | 75254 | | 0 | 186836 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 551 | 1-2Q | 773 | 1Q | 1128 | 1Q | Continue | Continue | 0 |
| b . Systems Engineering and Technical Support | Various | Various | 2891 | 3252 | 1-2Q | 5638 | 1Q | 4920 | 1Q | Continue | Continue | 0 |
| c . FCS / Army Support | | | 0 | 0 | | 0 | | 3763 | 1Q | Continue | 3763 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3171 | 3803 | | 6411 | | 9811 | | 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 | 1606 | 1-2Q | 3591 | 1Q | 8940 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 285 | 1606 | | 3591 | | 8940 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 998 | 1018 | 1Q | 2441 | 1Q | 2487 | 1Q | Continue | Continue | 0 |
| b . Preparation for Conduct Source Selection Evaluation Board | Various | Various | 326 | 0 | | 0 | | 1252 | 3-4Q | 0 | 1578 | 0 |
| c . Travel, licenses, facilities, etc. | Various | Various | 128 | 668 | 1Q | 552 | 1Q | 531 | 1Q | Continue | Continue | 0 |
| d . MITRE Support | PWD | MITRE, Eatontown, NJ | 1233 | 1231 | 1Q | 994 | 1Q | 1370 | 1Q | Continue | Continue | 0 |
| e . SBIR/STTR | | | 0 | 0 | | 2345 | 1Q | 0 | | 0 | 2345 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2685 | 2917 | | 6332 | | 5640 | | Continue | Continue | 0 |
| Project Total Cost: | | | 12141 | 48849 | | 81393 | | 99645 | | Continue | Continue | 0 |

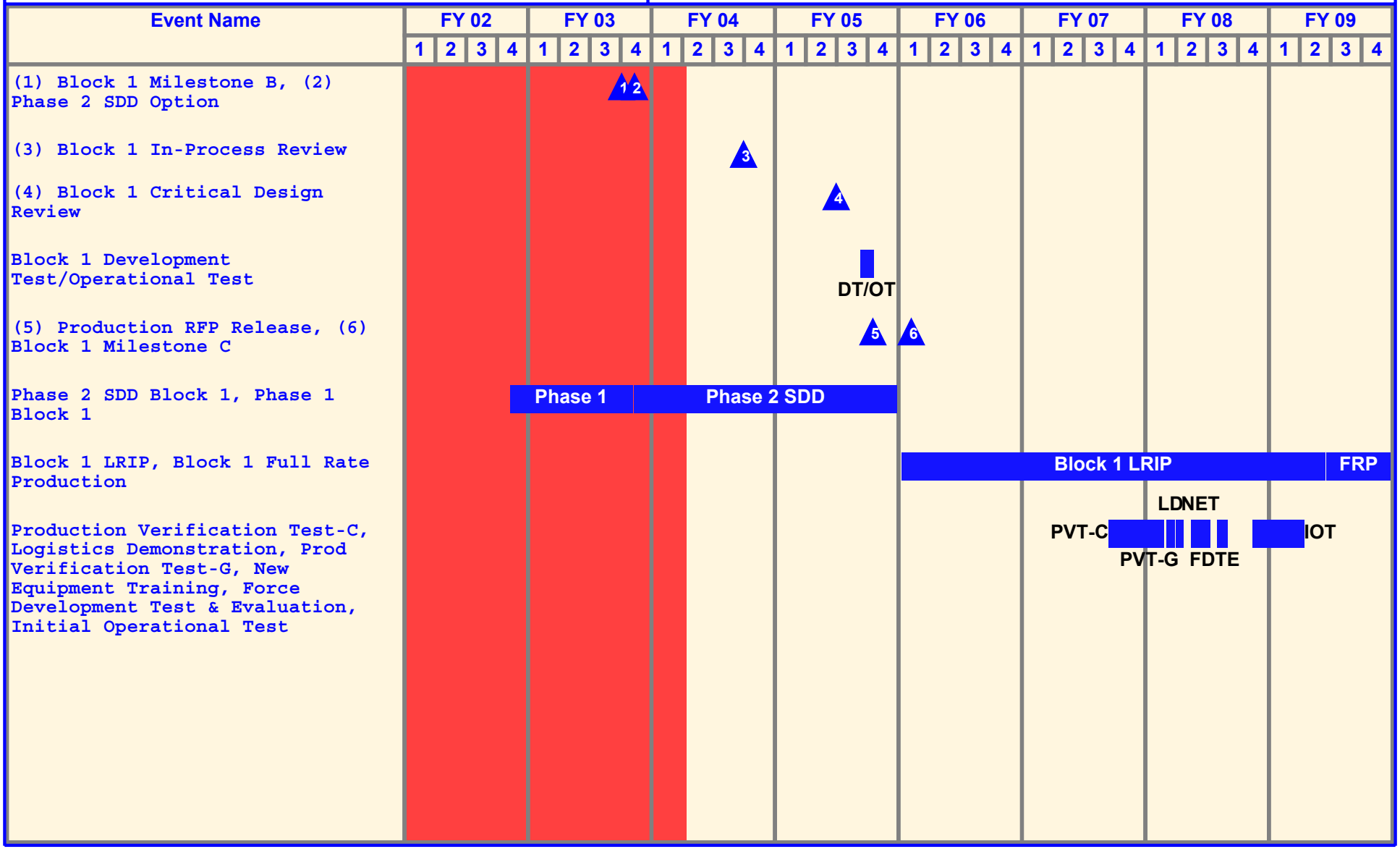
# Schedule Profile (R4 Exhibit)

February 2004

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

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

PROJECT
**355**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Milestone B Decision | 4Q | | | | | | |
| Phase 2 SDD Option | 4Q | 1-4Q | 1-4Q | | | | |
| Development Test/Operational Test (DT/OT) | | | 3-4Q | | | | |
| Production RFP Release | | | 3Q | | | | |
| Milestone C Decision | | | | 1Q | | | |
| Production Contract | | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initial Operational Test (IOT) | | | | | | 4Q | 1-2Q |
| Full Rate Production Decision Review | | | | | | | 3Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

| COST (In Thousands) | FY 2003 Actual | 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 | 4561 | 2747 | 4801 | 4869 | 4949 | 5034 | 5123 | 0 | 63215 |

**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 and our cooperative partners, including the North Atlantic Treaty Organization (NATO), U.S. major non-NATO allies and Friendly Foreign countries. Through technology sharing and joint equipment development these projects help reduce U.S. acquisition costs and leverage important technologies for the Army Transformation and the development of the Future Combat system. Cooperative efforts also improve multinational force compatibility with potential coalition partners through the development and use of similar equipment and improved interfaces. The program focuses specifically on international cooperative technology demonstration, validation, and interoperability of Army weapon and command, control, communications and information (C3I) systems. Projects are implemented through international agreements with foreign partners that define scope, cost and work sharing arrangements, management, contracting, security, data protection and third party transfers. Funds are used to pay for only the U.S. work share that occurs in the United States at U.S. Government and U.S. contractors' facilities.

| Accomplishments/Planned Program | 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 extend the effort into a sustainable program to incorporate lessons learned into national systems. | 0 | 100 | 400 |
| 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. | 690 | 657 | 751 |
| 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. | 300 | 200 | 200 |
| Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP) (Partners: United Kingdom and Norway): STGP/SIGP is an OSD interoperability initiative. The STGP is a coalition (U.S./UK/NO) part of the SIGP which is key to the Future Combat System. STGP links directly with SIGP and FCS making the Army a key player. | 0 | 100 | 500 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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. | 1300 | 100 | 100 |
| 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. | 800 | 400 | 400 |
| 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. 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. | 1171 | 820 | 1000 |
| 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 Land Warfare Concepts and Technologies that are focused on Future Combat System enabling technologies, the maturation of which may lead to the development of technologically superior conventional weapon systems. | 0 | 0 | 950 |
| 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. | 300 | 190 | 300 |

| **Accomplishments/Planned Program A(continued)** | 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 | 100 | 200 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 80 | 0 |
| Totals | 4561 | 2747 | 4801 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 4559 | 4779 | 5263 |
| Current Budget (FY 2005 PB) | 4561 | 2747 | 4801 |
| Total Adjustments | 2 | -2032 | -462 |
| Congressional program reductions | | -2027 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 2 | -5 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -462 |

**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 Future Force or as product improvements to Current Force.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 836 | 0 | | 25 | | 100 | | 0 | 961 | 0 |
| b . International Agreement Tracking System (IATS) - Software Development | | JIL Information Systems Vienna, VA | 419 | 477 | | 454 | | 520 | | 0 | 1870 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | | | 274 | 47 | | 116 | | 115 | | 0 | 552 | 0 |
| d . Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP) | TBD | TBD | 0 | 0 | | 69 | | 346 | | 0 | 415 | 0 |
| e . Combat Identification | | | 418 | 344 | | 25 | | 25 | | 0 | 812 | 0 |
| f . Simulation & C2 Information System Connectivity Experimentation (SINCE) - C2 Systems | | | 753 | 564 | | 100 | | 100 | | 0 | 1517 | 0 |
| g . Senior National Representatives (Army) (SNR[A]) | | | 1590 | 824 | | 623 | | 692 | | 0 | 3729 | 0 |
| h . TRDP | TBD | TBD | 0 | 0 | | 0 | | 312 | | 0 | 312 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Artillery Command and Control Interoperability (ASCA) | | | 0 | 212 | | 132 | | 208 | | 0 | 552 | 0 |
| j . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 50 | | 100 | | 0 | 150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4290 | 2468 | | 1594 | | 2518 | | 0 | 10870 | 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 | 183 | 0 | | 25 | | 100 | | 0 | 308 | 0 |
| b . IATS | MIPR | | 92 | 106 | | 102 | | 116 | | 0 | 416 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | | 74 | 128 | | 42 | | 41 | | 0 | 285 | 0 |
| d . Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP) | MIPR | LOGSA | 0 | 0 | | 15 | | 77 | | 0 | 92 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Combat Identification | MIPR | | 92 | 322 | | 25 | | 25 | | 0 | 464 | 0 |
| f . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM Ft. Monmouth, NJ | 166 | 118 | | 100 | | 100 | | 0 | 484 | 0 |
| g . SNR(A) | MIPR | | 350 | 173 | | 139 | | 154 | | 0 | 816 | 0 |
| h . TRDP | MIPR | TBD | 0 | 0 | | 0 | | 313 | | 0 | 313 | 0 |
| i . Artillery Command and Control Interoperability (ASCA) | | | 0 | 44 | | 29 | | 46 | | 0 | 119 | 0 |
| j . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 25 | | 50 | | 0 | 75 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 957 | 891 | | 502 | | 1022 | | 0 | 3372 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 122 | 0 | | 25 | | 100 | | 0 | 247 | 0 |
| b . IATS | MIPR | | 60 | 73 | | 68 | | 77 | | 0 | 278 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | | 49 | 38 | | 12 | | 13 | | 0 | 112 | 0 |
| d . Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP) | MIPR | AMSAA, Aberdeen Proving Ground, NJ | 0 | 0 | | 10 | | 52 | | 0 | 62 | 0 |
| e . Combat Identification | MIPR | | 61 | 333 | | 25 | | 25 | | 0 | 444 | 0 |
| f . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM Ft Monmouth, NJ | 110 | 81 | | 100 | | 100 | | 0 | 391 | 0 |
| g . SNR(A) | MIPR | | 233 | 119 | | 93 | | 103 | | 0 | 548 | 0 |
| h . TRDP | MIPR | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| i . ASCA | | | 0 | 30 | | 20 | | 31 | | 0 | 81 | 0 |
| j . Joint Tactical Radio System (JTRS) | | | 0 | 0 | | 12 | | 25 | | 0 | 37 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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: | | | 635 | 674 | | 365 | | 526 | | 0 | 2200 | 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 | 61 | 0 | | 25 | | 100 | | 0 | 186 | 0 |
| b . IATS | MIPR | | 31 | 34 | | 33 | | 38 | | 0 | 136 | 0 |
| c . Low Level Air Defense Interoperability (LLAPI) | MIPR | | 25 | 88 | | 30 | | 31 | | 0 | 174 | 0 |
| d . Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP) | MIPR | LOGSA | 0 | 0 | | 5 | | 25 | | 0 | 30 | 0 |
| e . Combat Identification | MIPR | | 31 | 301 | | 25 | | 25 | | 0 | 382 | 0 |
| f . Simulation and C2 Information System Connectivity Experimentation (SINCE) | MIPR | CECOM, Ft. Monmouth, NJ | 55 | 37 | | 100 | | 100 | | 0 | 292 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| g . SNR(A) | MIPR | | 117 | 54 | | 46 | | 51 | | 0 | 268 | 0 |
| h . TRDP | MIPR | TBD | 0 | 0 | | 0 | | 325 | | 0 | 325 | 0 |
| i . Artillery Command and Control Interoperability (ASCA) | | | 0 | 14 | | 10 | | 15 | | 0 | 39 | 0 |
| j . JTRS | | | 0 | 0 | | 12 | | 25 | | 0 | 37 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 320 | 528 | | 286 | | 735 | | 0 | 1869 | 0 |
| Project Total Cost: | | | 6202 | 4561 | | 2747 | | 4801 | | 0 | 18311 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 10660 | 14307 | 9233 | 9872 | 10113 | 9876 | 10490 | Continuing | Continuing |
| B32 | ADV MAINT CONCEPTS/EQ | 3269 | 7017 | 6392 | 6464 | 6704 | 6389 | 6910 | Continuing | Continuing |
| B33 | CARGO HANDLING & MISSION SPT | 3114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8720 |
| B45 | AIRCREW INTEGRATED SYS-AD | 4277 | 7290 | 2841 | 3408 | 3409 | 3487 | 3580 | 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).FY 04 shows a $4.5M Congressional increase for project B45 for the Virtual Cockpit Optimization Program. These systems support the Future Force transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 10767 | 9968 | 9320 |
| Current Budget (FY 2005 PB) | 10660 | 14307 | 9233 |
| Total Adjustments | -107 | 4339 | -87 |
| Congressional program reductions | | -136 | |
| Congressional rescissions | -346 | | |
| Congressional increases | 2800 | 4500 | |
| Reprogrammings | -2301 | -25 | |
| SBIR/STTR Transfer | -260 | | |
| Adjustments to Budget Years | | | -87 |

Beginning in FY04, funds from Project B33 have been moved to Project B32.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B32** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3269 | 7017 | 6392 | 6464 | 6704 | 6389 | 6910 | Continuing | Continuing |

**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 and machine interfaces, enhance aircraft maintenance processes and reduce Operation and Support (O&S) costs. It provides for development of rapid battle repair procedures and tools development to speed the return of aircraft to combat ready status, and development of new equipment for aerial recovery of damaged aircraft. Included in this program are projects such as: evaluation of database management software, diagnostic/prognostic monitoring systems, Battle Damage Assessment and Repair (BDAR) procedures and tools, support to modernized aircraft, advanced powered electric drive vehicle concepts in aviation ground support function area, Aviation Turbine Engine Diagnostic System (ATEDS), Digital Aviation Weight & Balance Automation (DAWS), and concept exploration for the new Aviation Ground Power Unit (AGPU)-Block II. These efforts support the Future transition path of the Transformation Campaign Plan (TCP).

No Defense Emergency Response Funds (DERF) provided for this program/project.

Beginning in FY 04, Project B33 has been combined with this budget line.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| ATEDS - Software development and demonstration | 0 | 1651 | 0 |
| ATEDS - Multi Engine Integration | 0 | 775 | 1200 |
| Digital Maintenance Architecture Demonstration (DMAD) | 1775 | 0 | 0 |
| AGPU Block II - Develop performance specification and analyze prototype | 0 | 622 | 350 |
| BDAR System - Demonstration & validation Block II | 0 | 100 | 125 |
| DAWS - Algorithim automation (GCSS - Army) | 0 | 0 | 350 |
| Standard Aircraft Towing System (SATS) Block II- Advanced Fuel Electric Drive - Perform market research | 0 | 250 | 300 |
| Shop Equipment Contact Maintenance (SECM) Modernization - Block II | 0 | 450 | 350 |
| Maintenance Platform & Tow Bar Modernization | 95 | 200 | 150 |
| Hybrid Electric Vehicle Aviation - prototype, systems integration, early operational assessment | 349 | 570 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Hybrid Vehicle Upgrade - (Remote Trailers) | 0 | 0 | 250 |
| Future Aviation Repair & Maintenance Systems | 0 | 111 | 434 |
| Advanced AGSE Working Group | 75 | 100 | 100 |
| Deployable SECM Maintenance Cover - I/II | 0 | 125 | 0 |
| Deployable Aviation Maintenance Shelter for SECM - III (Contact Team) | 0 | 0 | 250 |
| Swagging Tool Kit (A&B) | 0 | 0 | 100 |
| Borescope Eval Sys (Fuel Cell/Engine) | 0 | 75 | 250 |
| Aviation Vibration Analyzer II (AVA-II) - Software | 0 | 150 | 0 |
| New Aviation Tool Sets (NATS) - Evaluation and Redesign | 0 | 0 | 300 |
| Aviation Parts Marking - Automation | 0 | 0 | 150 |
| Technical Engineering Services | 804 | 1279 | 1410 |
| Management Support Services | 171 | 355 | 323 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 204 | 0 |
| Totals | 3269 | 7017 | 6392 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Aircraft Procurement, Army(APA) SSN AZ3100 | 19257 | 16474 | 21933 | 35361 | 47249 | 51174 | 47491 | 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(R3)

**February 2004**

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 - Software development and demonstration | C/CPFF | Boeing/GE, Mesa, AZ | 0 | 0 | | 1651 | 2Q | 0 | | 0 | 1651 | 1651 |
| b . ATEDS - Multi Engine Integration | C/CPFF | TBS | 0 | 0 | | 775 | 2Q | 1200 | 2Q | 1913 | 3888 | 3888 |
| c . Digital Maintenance Architecture Demo (DMAD) | C/CPFF | Boeing Co, Ridley Park, PA | 918 | 1775 | 2Q | 0 | | 0 | | 0 | 2693 | 2693 |
| d . Aviation Ground Power Unit (AGPU) Block II | MIPR | Prototype Integration Facility (PIF), Redstone Arsenal, AL | 0 | 0 | | 622 | 3Q | 350 | 3Q | 550 | 1522 | 1522 |
| e . BDAR System Block II | C/CPFF | TBS | 0 | 0 | | 100 | 3Q | 125 | 3Q | 0 | 225 | 225 |
| f . DAWS | MIPR | Software Engineering Directorate, Redstone Arsenal, AL | 0 | 0 | | 0 | | 350 | 2Q | 600 | 950 | 950 |
| g . SATS - Block II | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 250 | 3Q | 300 | 3Q | 450 | 1000 | 1000 |
| h . SECM - Block II | MIPR | PIF, Redstone Arsenal, AL | 0 | 0 | | 450 | 2Q | 350 | 2Q | 350 | 1150 | 1150 |
| i . Maintenance Platform & Towbar | MIPR | AATD, Ft. Eustis, VA | 0 | 95 | 4Q | 200 | 2Q | 150 | 2Q | 0 | 445 | 500 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Hybrid Electric Vehicle AVN - prototype, systems integ, early operational test, AGSE moduleization | C/CPFF | AM General, Detroit, MI/Solectra, Boston, MA | 1649 | 349 | 2Q | 570 | 2Q | 0 | | 0 | 2568 | 2568 |
| k . Hybrid Electric Vehicle Upgrade - (Remote Trailers) | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 0 | | 250 | 2Q | 825 | 1075 | 1075 |
| l . Future Aviation Repair & Maint Sys | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 111 | 2Q | 434 | 2Q | 1300 | 1845 | 2170 |
| m . Advanced AGSE Working Group | | AGSE, Redstone Arsenal, AL | 0 | 75 | 4Q | 100 | 3Q | 100 | 3Q | 100 | 375 | 375 |
| n . Deployable SECM Maintenance Cover | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 125 | 3Q | 0 | | 0 | 125 | 125 |
| o . Deployable Aviation Maintenance Shelter for SECM (Contact Team) | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 0 | | 250 | 2Q | 975 | 1225 | 1225 |
| p . Swagging Tool Kit (A&B) | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 0 | | 100 | 2Q | 0 | 100 | 100 |
| q . Borescope Eval Sys (Fuel Cell/Engine) | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 75 | 2Q | 250 | 2Q | 0 | 325 | 325 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r . Aviation Vibration Analyzer II - software | MIPR | AATD, Ft. Eustis, VA | 950 | 0 | | 150 | 3Q | 0 | | 0 | 1100 | 1100 |
| s . New Aviation Tool Sets (NATS) Eval & Redesign | MIPR | AATD, Ft. Eustis, VA | 523 | 0 | | 0 | | 300 | 2Q | 700 | 1523 | 1523 |
| t . Aviation Parts Marking | MIPR | AATD, Ft. Eustis, VA | 0 | 0 | | 0 | | 150 | 2Q | 0 | 150 | 150 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4040 | 2294 | | 5179 | | 4659 | | 7763 | 23935 | 24315 |

| 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, Ft. Eustis, VA | 1429 | 744 | 1-4Q | 1144 | 1-3Q | 1262 | 1-3Q | Continue | 4579 | Continue |
| b . Technical Engineering Services | MIPR | Directorate for Combat Developments, Ft. Rucker, AL | 0 | 60 | 4Q | 135 | 2Q | 148 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1429 | 804 | | 1279 | | 1410 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

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

| 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 | T&M | Science Applications Intl Corp, San Diego, CA | 337 | 81 | 2Q | 255 | 1Q | 223 | 2Q | Continue | Continue | Continue |
| b . Program Management In-House | NA | AGSE, Redstone Arsenal, AL | 372 | 90 | 1-4Q | 100 | 1-4Q | 100 | 1-4Q | Continue | Continue | Continue |
| c . Small Business Innovative Research/Small Business Technology Transfer Programs | | | 0 | 0 | | 204 | | 0 | | 0 | 204 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 709 | 171 | | 559 | | 323 | | Continue | Continue | Continue |

Remarks: None

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 6178 | 3269 | | 7017 | | 6392 | | Continue | Continue | Continue |

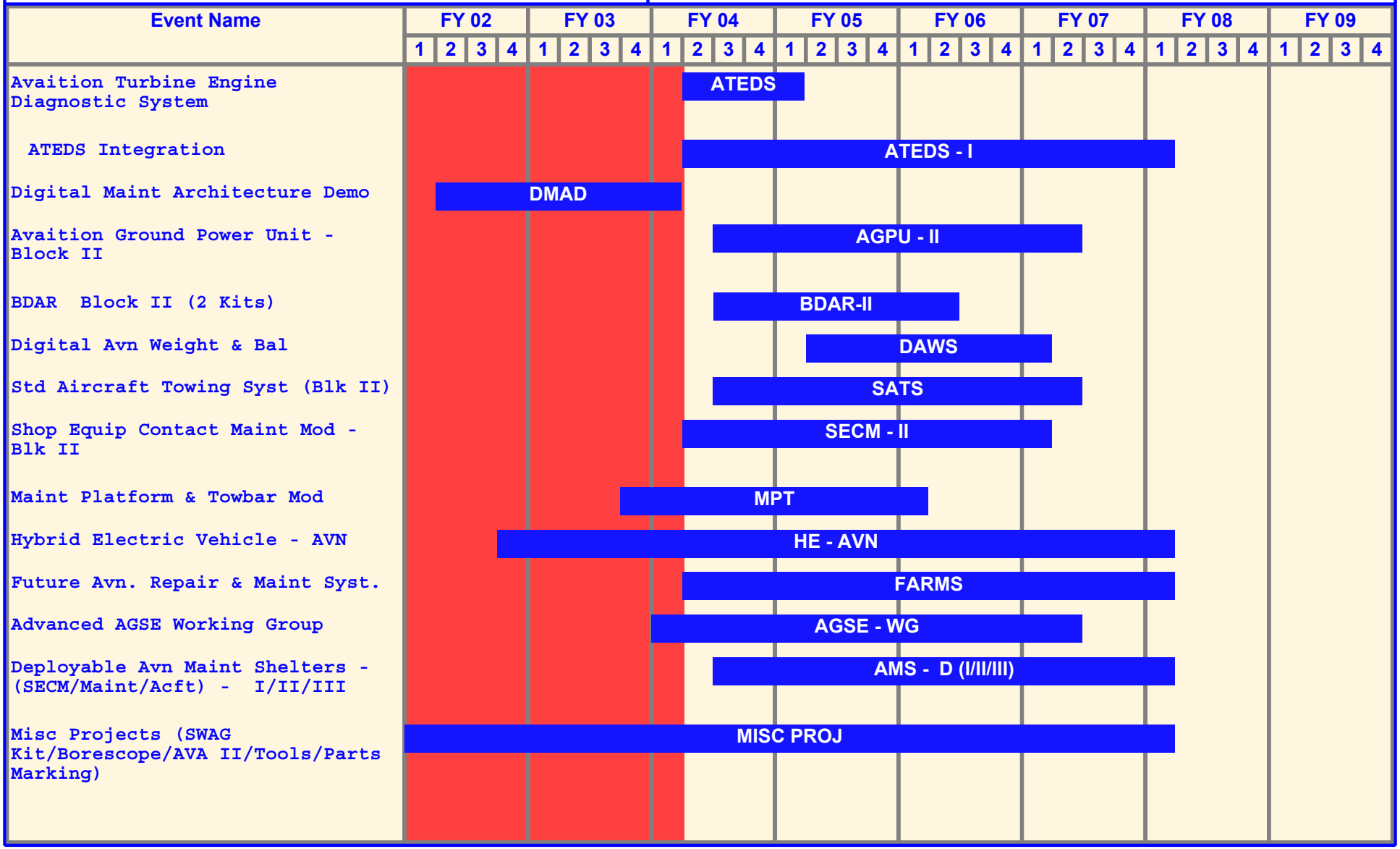
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**



# Schedule Detail (R4a Exhibit)

**February 2004**

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B32**

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Develop software | | 2-4Q | 1Q | | | | |
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Multi Engine Integration | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1Q | |
| DIGITAL MAINT ARCHITECTURE DEMO (DMAD) | 2-4Q | 1Q | | | | | |
| AVIATION GROUND POWER UNIT (AGPU) BLOCK II | | 3-4Q | 1-4Q | 1-4Q | 1-2Q | | |
| BATTLE DAMAGE ASSMNT & REPAIR (BDAR) SYSTEM - DEMO & VALIDATION BLOCK II | | 3-4Q | 1-4Q | 1-2Q | | | |
| DIGITAL AVIATION WEIGHT & BALANCE (DAWS) | | | 2-4Q | 1-4Q | 1Q | | |
| STANDARD AIRCRAFT TOWING SYSTEM (SATS) - BLOCK II - MARKET RESEARCH | | 3-4Q | 1-4Q | 1-4Q | 1-2Q | | |
| SHOP EQUIPMENT CONTACT MAINTENANCE (SECM) MODERNIZATION - BLOCK II | | 2-4Q | 1-4Q | 1-4Q | 1Q | | |
| MAINTENANCE PLATFORM & TOWBAR MODERNIZATION | 4Q | 1-4Q | 1-4Q | 1Q | | | |
| HYBRID ELECTRIC VEHICLE AVN - PROTOTYPE, SYS INTEGRATION, EARLY OPERATIONAL TESTING | 2-4Q | 1-4Q | 1Q | | | | |
| HYBRID VEHICLE UPGRADE - (REMOTE TRAILERS) | | | 2-4Q | 1-4Q | 1-4Q | 1Q | |
| FUTURE AVIATION REPAIR & MAINT SYSTEMS | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1Q | |
| ADVANCED AGSE WORKING GROUP | | 1-4Q | 1-4Q | 1-4Q | 1-2Q | | |
| DEPLOYABLE SECM MAINTENANCE COVER - I/II | | 3-4Q | 1-2Q | | | | |
| DEPLOYABLE AVIATION MAINTENANCE SHELTER FOR SECM - III (CONTACT TEAM) | | | 2-4Q | 1-4Q | 1-4Q | 1Q | |
| SWAGGING TOOL KIT (A&B) | | | 2-4Q | | | | |
| BORESCOPE EVAL SYS (FUEL CELL/ENGINE) | | 2-4Q | 1-4Q | 1Q | | | |
| AVIATION VIBRATION ANALYZER II - SOFTWARE | | 3-4Q | 1-2Q | | | | |
| NEW AVIATION TOOL SETS (NATS) EVALUATION AND REDESIGN | | | 2-4Q | 1-4Q | 1-4Q | 1Q | |
| AVIATION PARTS MARKING AUTOMATION | | | 2-4Q | 1Q | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B32** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| TECHNICAL ENGINEERING SERVICES | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| MANAGEMENT SUPPORT SERVICES | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B33** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8720 |

**A. Mission Description and Budget Item Justification:** This project explores, develops and integrates affordable Aviation Ground Support Equipment (AGSE) 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. Projects include funding for the Aviation Turbine Engine Diagnostics System (ATEDS), Battle Damage Assessment and Repair (BDAR), Shop Equipment Contact Maintenance (SECM), Strategic Plan for AGSE and Vibration Management Enhancement Program (VMEP)- AVA II. Addressing priority Aviation Ground Support Equipment (AGSE) will allow the PM to initiate the acquisition process and development of the prototype systems. These efforts support the Future transition path of the Transformation Campaign Plan (TCP).

No Defense Emergency Response Funds (DERF) provided for this program/project.

Funds from this Project have been moved to B32 starting in FY 04.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Aviation Turbine Diagnostic System (ATEDS) - Software development. | 1500 | 0 | 0 |
| Vibration Management Enhancement Program (VMEP) - AVA II | 169 | 0 | 0 |
| Shop Equipment Contact Maintenance (SECM) Upgrade - Block I | 234 | 0 | 0 |
| Strategic Plan for Aviation Ground Support Equipment | 521 | 0 | 0 |
| Battle Damage Assessment and Repair (BDAR) Kit - Block I Demonstration & validation. | 100 | 0 | 0 |
| Technical Support Services | 508 | 0 | 0 |
| Management Support Services | 82 | 0 | 0 |
| Totals | 3114 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Aircraft Procurement, Army (APA) SSN AZ3100 | 19257 | 16474 | 21933 | 35361 | 47249 | 51174 | 47491 | 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(R3)

**February 2004**

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 | Boeing/GE, Mesa, AZ | 6220 | 1500 | 2Q | 0 | | 0 | | 0 | 7720 | 7383 |
| b . Vibration Management Enhancement Program (VMEP) | MIPR | MRDEC, Redstone Arsenal, AL | 450 | 169 | 3Q | 0 | | 0 | | 0 | 619 | 619 |
| c . SECM | MIPR | Program Integration Facility, Redstone Arsenal, AL | 0 | 234 | 2Q | 0 | | 0 | | 0 | 234 | 234 |
| d . Strategic Plan (AGSE) | C/CPFF | Camber Corp, Huntsville, AL | 0 | 521 | 2Q | 0 | | 0 | | 0 | 521 | 521 |
| e . BDAR - BLOCK I | MIPR | PIF, Redstone Arsenal, AL | 100 | 100 | 3Q | 0 | | 0 | | 0 | 200 | 200 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6770 | 2524 | | 0 | | 0 | | 0 | 9294 | 8957 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| 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, Ft. Eustis, VA | 1060 | 508 | 1Q | 0 | | 0 | | 0 | 1568 | 1527 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1060 | 508 | | 0 | | 0 | | 0 | 1568 | 1527 |

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(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**

| 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 | N/A | AGSE, Huntsville, AL | 362 | 82 | 1-4Q | 0 | | 0 | | 0 | 444 | 444 |
| | | | | | | | | | | | | |
| Subtotal: | | | 362 | 82 | | 0 | | 0 | | 0 | 444 | 444 |
| Remarks: None | | | | | | | | | | | | |
| Project Total Cost: | | | 8192 | 3114 | | 0 | | 0 | | 0 | 11306 | 10928 |

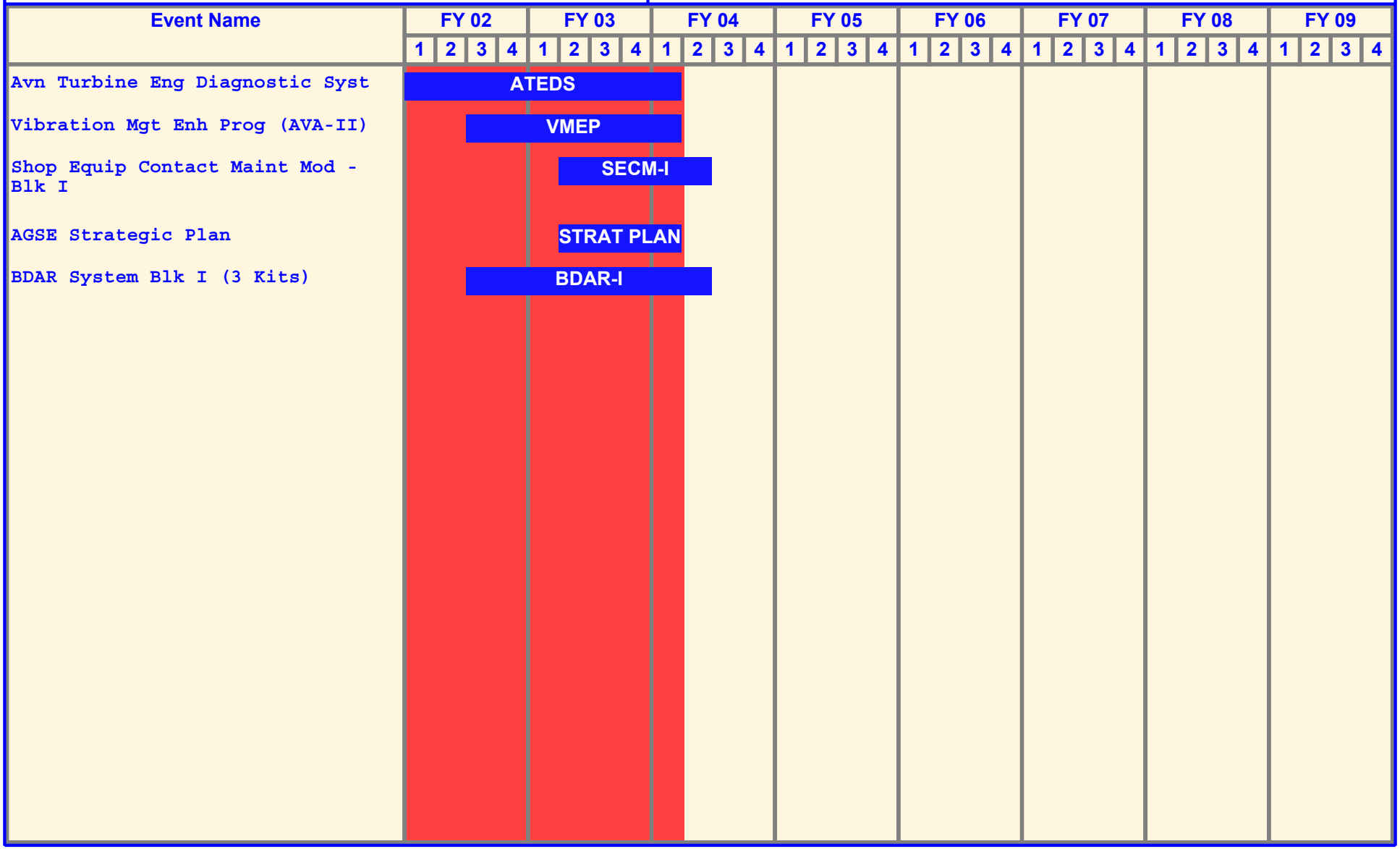
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B33**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B33** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS) - Develop Software | 1-4Q | 1Q | | | | | |
| VIBRATION MANAGEMENT ENHANCEMENT PROGRAM (VMEP) - AVA II | 1-4Q | 1Q | | | | | |
| SHOP EQUIPMENT CONTACT MAINTENANCE (SECM) UPGRADE - BLOCK I | 2-4Q | 1-2Q | | | | | |
| STRATEGIC PLAN FOR AGSE | 2-4Q | 1Q | | | | | |
| BATTLE DAMAGE ASSESSMENT & REPAIR (BDAR) KIT BLOCK I - Demonstration & validation | 1-4Q | 1-2Q | | | | | |
| TECHNICAL SUPPORT SERVICES | 1-4Q | | | | | | |
| MANAGEMENT SUPPORT SERVICES | 1-4Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B45** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 4277 | 7290 | 2841 | 3408 | 3409 | 3487 | 3580 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Project DB45 - Air Warrior Systems (AW) Advanced Development: This project provides concept and technology programs, to include Future Force Warrior, 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 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, three-dimensional audio and external audio capability, 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 meet 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 technology improvements. The Virtual Cockpit Optimization Program (VCOP) will demonstrate an integrated system providing pilots with improved intuitiveness, 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, and threat warnings. 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 Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue advanced component development of Air Warrior preplanned technology improvements. | 1689 | 2605 | 2841 |
| Continued Virtual Cockpit Optimization Program Advanced Component Development and Integration of technologies for simulation and demonstration. | 2588 | 4476 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 209 | 0 |
| Totals | 4277 | 7290 | 2841 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B45** |

| **B. Other Program Funding Summary** | 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 | 2979 | 3344 | 2378 | 2292 | 2290 | 2517 | 2613 | Continuing | Continuing |
| Aircraft Procurement, Army SSN AZ3110 - ACIS | 14956 | 32848 | 28609 | 29477 | 34098 | 41343 | 38163 | Continuing | Continuing |

**C. Acquisition Strategy:** DB45 - An Air Warrior Program Definition and Risk Reduction development contract was awarded in FY 1997 to perform a functional requirements analysis. Air Warrior was approved to proceed into the Engineering and Manufacturing development phase in 1st Quarter, FY 1999. A combined government and contractor team developed Air Warrior components and integrated those components into a Block 1 Air Warrior system. After a successful Milestone C decision, production contracts were awarded in FY 2003 for procurement of the Block 1 Air Warrior system. Spiral development, integrating joint and new technologies as improvements to the Air Warrior system, began in FY 2002. These efforts include electronic data management, wireless communications, body armor, modular integrated helmet display systems with increased nuclear, ballistic and laser eye protection, improved soldier environmental control systems, waste management, and other program integration. The Virtual Cockpit Optimization Program component 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(R3)

**February 2004**

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- CPFF | Various | 2059 | 709 | 1Q | 1897 | 2Q | 1741 | 2Q | Continue | 6406 | Continue |
| b . Virtual Cockpit Optimization Program Concept Development | SS-CPFF | Microvision, Seattle, WA | 10731 | 2200 | 2Q | 4185 | 2Q | 0 | | 10957 | 28073 | 10957 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12790 | 2909 | | 6082 | | 1741 | | Continue | 34479 | 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 | 528 | 1-4Q | 608 | 1-4Q | 477 | 1-4Q | Continue | 3701 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2088 | 528 | | 608 | | 477 | | Continue | 3701 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 108 | 3Q | 0 | | 0 | | Continue | 461 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 353 | 108 | | 0 | | 0 | | Continue | 461 | 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 | 732 | 1-4Q | 600 | 1-4Q | 623 | 1-4Q | Continue | 2300 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 345 | 732 | | 600 | | 623 | | Continue | 2300 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 15576 | 4277 | | 7290 | | 2841 | | Continue | 40941 | Continue |

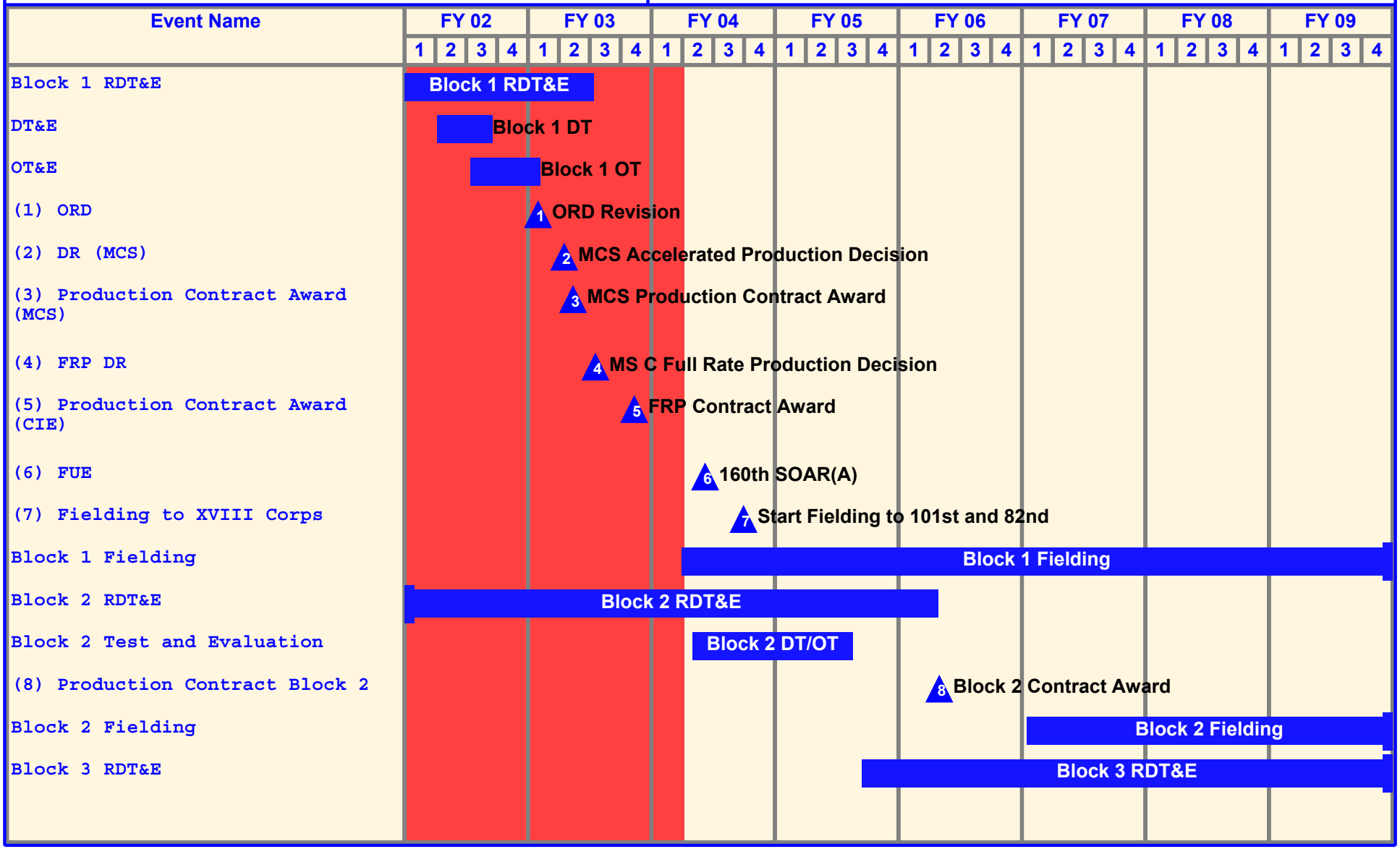
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603801A - Aviation - Adv Dev**

PROJECT
**B45**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603801A - Aviation - Adv Dev** | **B45** |

| Schedule Detail | 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. | | | | | | | |
| Air Warrior basic ensemble Full Rate Production Decision. | 3Q | | | | | | |
| Advanced Component Development of Air Warrior Block improvements. | 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 |
| VCOP components demonstration in Advanced Prototyping Engineering Experimentation (APEX) | 2Q | 2Q | | | | | |
| Air Warrior FUE simulator | | 2Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603802A - Weapons and Munitions - Adv Dev** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 35634 | 31500 | 2382 | 0 | 0 | 4821 | 1444 | Continuing | Continuing |
| AS2 | SMALL ARMS IMPROVEMENT | 996 | 0 | 2382 | 0 | 0 | 4821 | 1444 | Continuing | Continuing |
| AS3 | OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) PD/RR | 26898 | 31500 | 0 | 0 | 0 | 0 | 0 | 0 | 113531 |
| AS4 | MORTAR SYSTEMS | 7740 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10425 |

**A. Mission Description and Budget Item Justification:** This program element addresses the modernization of 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 the spiral 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. The first spiral will be the XM 8 Assault Weapon. 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 current to future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 34257 | 31856 | 4868 |
| Current Budget (FY 2005 PB) | 35634 | 31500 | 2382 |
| Total Adjustments | 1377 | -356 | -2486 |
| Congressional program reductions | | -578 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 1377 | 222 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -2486 |

Change Summary Explanation:
FY 05 - Adjustment to accelerate XM-8 Carbine (5.56mm).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603802A - Weapons and Munitions - Adv Dev** | **AS2** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| AS2 | SMALL ARMS IMPROVEMENT | 996 | 0 | 2382 | 0 | 0 | 4821 | 1444 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project addresses the modernization of existing Small Arms Weapons. It provides funds to develop system integration of subsystems and components and emerging technology 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 equipment such as fire control, training devices, hand grenades and ammunition. This program focuses on improvements to the M249 Squad Automatic Weapon, Sniper Weapons, M16/M4 Rifle, Grenade Launchers, Ammo, such as Airburst Ammo and Thermobaric Ammo, and Medium Machine Guns. Future efforts include the Payload Rifle (transition from Tech Base), Airburst Munition (FY 05 New Start), Course Correcting Ammo, Improved Grenade Launcher System and Improved Shaped Charge. These small arms weapon systems support the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Thermobaric Cartridges Complete - Transitioned to 604802A | 0 | 0 | 0 |
| - Develop Modeling and Simulation | 103 | 0 | 0 |
| - Prototype Fabrication | 762 | 0 | 0 |
| - Thermobaric Munition Testing | 81 | 0 | 0 |
| - Prepare Final Report and Documentation | 50 | 0 | 0 |
| Airburst Munition - FY 05 New Start | 0 | 0 | 0 |
| - Acquisition Strategy | 0 | 0 | 90 |
| - In Process Review | 0 | 0 | 55 |
| - Prepare Request for Proposal | 0 | 0 | 112 |
| - Contract Award | 0 | 0 | 805 |
| - Conduct Testing | 0 | 0 | 495 |
| Payload Rifle - Transition from Tech Base | 0 | 0 | 0 |
| - Conduct Market Survey | 0 | 0 | 125 |
| - Prepare Request for Proposal | 0 | 0 | 200 |
| - Conduct User and Technical Assessments | 0 | 0 | 500 |
| Totals | 996 | 0 | 2382 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE 0604802A, Project AS1 | 8389 | 8384 | 11373 | 6258 | 2353 | 13652 | 4726 | 0 | 60662 |

**C. Acquisition Strategy:** Primary strategy is to solicit industry, make technical assessments, trade-off analysis, formulate and refine designs, test and evaluate items, and make determinations as to whether the item should be transitioned into Systems Development and Demonstration.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS2**

| 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 | 3366 | 762 | 2Q | 0 | | 780 | 2Q | 0 | 4908 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3366 | 762 | | 0 | | 780 | | 0 | 4908 | 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 | ARDEC, Picatinny, NJ | 1336 | 136 | 2Q | 0 | | 342 | 2Q | 0 | 1814 | 0 |
| b . ILS Support | MIPR | TACOM, Rock Island, IL | 105 | 0 | | 0 | | 105 | 2Q | 0 | 210 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1441 | 136 | | 0 | | 447 | | 0 | 2024 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS2**

| 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 | MIPR | ATEC, APG, MD | 340 | 0 | | 0 | | 700 | 3-4Q | 0 | 1040 | 0 |
| b . Human Engineering | | Human Engineering Lab, APG, MD | 0 | 0 | | 0 | | 5 | 2-3Q | 0 | 5 | 0 |
| c . Test Support | | DBBL, Ft. Benning, Columbus, GA | 0 | 0 | | 0 | | 150 | 2-3Q | 0 | 150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 340 | 0 | | 0 | | 855 | | 0 | 1195 | 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 Mgt | In House | PM Soldier Weapons, Picatinny Arsenal, NJ | 452 | 98 | 1-4Q | 0 | | 250 | 2-4Q | 0 | 800 | 0 |
| b . TDY | In House | PM Soldier Weapons, Picatinny Arsenal, NJ | 34 | 0 | | 0 | | 50 | 2-4Q | 0 | 84 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 486 | 98 | | 0 | | 300 | | 0 | 884 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 5633 | 996 | | 0 | | 2382 | | 0 | 9011 | 0 |

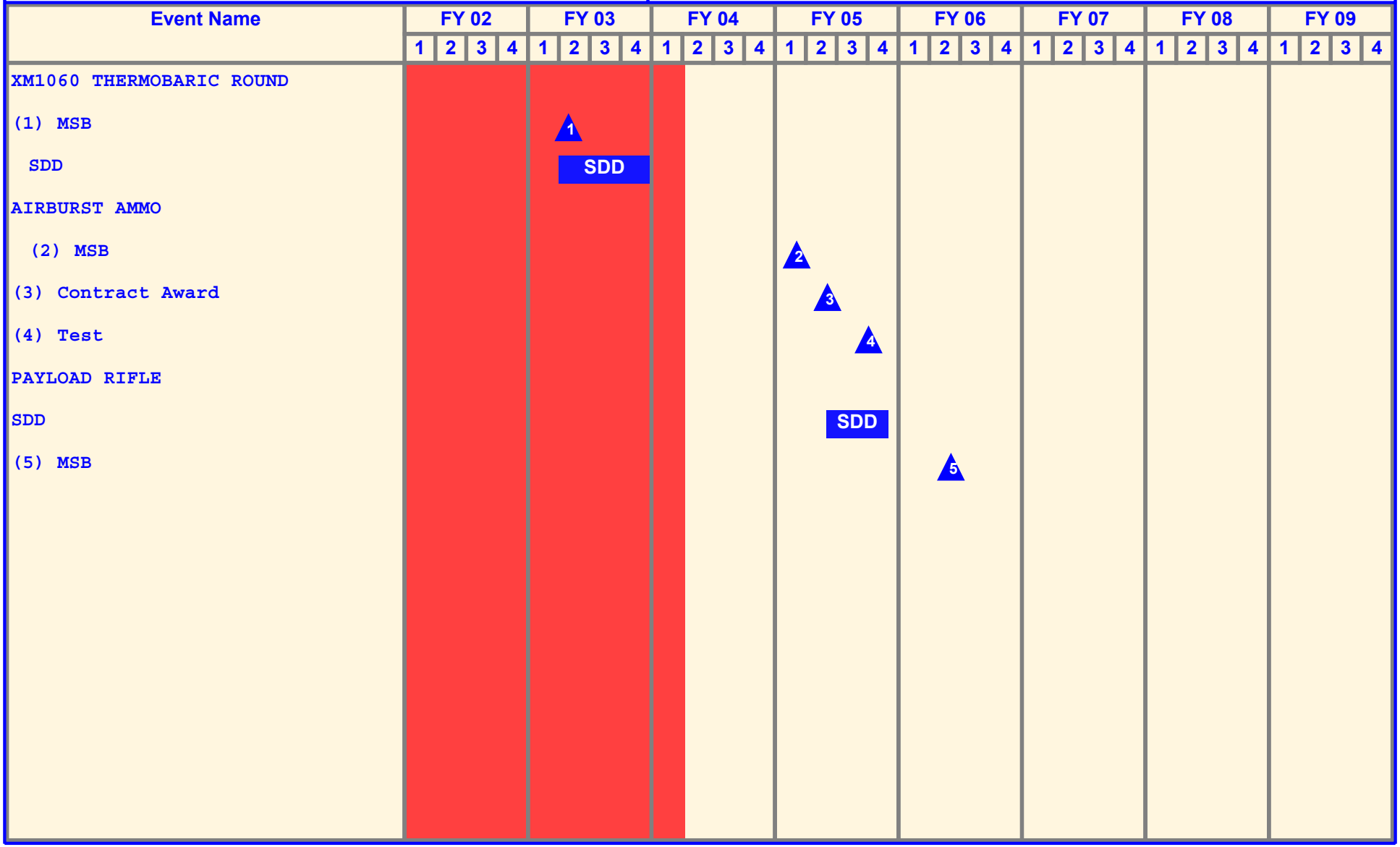
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603802A - Weapons and Munitions - Adv Dev**

PROJECT
**AS2**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603802A - Weapons and Munitions - Adv Dev** | **AS2** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Thermobaric Cartridges | | | | | | | |
| - Develop Modeling and Simulation | 1Q | | | | | | |
| - Prototype Fabrication | 2Q | | | | | | |
| - Thermobaric Munition Testing | 3Q | | | | | | |
| - Prepare Final Report and Documentation | 3Q | | | | | | |
| Airburst Munition | | | | | | | |
| - Develop Acquisition Strategy | | | 1Q | | | | |
| - In Process Review | | | 1Q | | | | |
| - Prepare Request for Proposal | | | 1Q | | | | |
| - Contract Award | | | 2Q | | | | |
| - Conduct Testing | | | 4Q | | | | |
| Payload Rifle | | | | | | | |
| - Conduct Market Survey | | | 2Q | | | | |
| - Prepare Request for Proposal | | | 3-4Q | | | | |
| - Conduct User and Technical Assessments | | | 2-3Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 11997 | 12863 | 10485 | 16822 | 17608 | 17164 | 17740 | 0 | 117897 |
| 526 | MARINE ORIEN LOG EQ AD | 6443 | 4707 | 296 | 296 | 297 | 297 | 296 | 0 | 18077 |
| G11 | ADV ELEC ENERGY CON AD | 1481 | 1484 | 1510 | 2879 | 2495 | 3072 | 3257 | 0 | 17749 |
| G14 | MATERIALS HANDLING EQUIPMENT - AD | 125 | 195 | 0 | 198 | 198 | 198 | 197 | 0 | 1380 |
| K39 | FIELD SUSTAINMENT SUPPORT AD | 0 | 6005 | 4689 | 10067 | 10157 | 10089 | 10563 | 0 | 53117 |
| K41 | WATER AND PETROLEUM DISTRIBUTION - AD | 3948 | 472 | 3990 | 3382 | 4461 | 3508 | 3427 | 0 | 27574 |

**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.

This project supports the Stryker Brigade Combat Team (SBCT) and the Current-to-Future transition path of the Army's Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 9243 | 12008 | 10713 |
| Current Budget (FY 2005 PB) | 11997 | 12863 | 10485 |
| Total Adjustments | 2754 | 855 | -228 |
| Congressional program reductions | -1760 | -122 | |
| Congressional rescissions | -156 | | |
| Congressional increases | | | |
| Reprogrammings | 4930 | 977 | |
| SBIR/STTR Transfer | -260 | | |
| Adjustments to Budget Years | | | -228 |

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 2004**

| 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 2003 Actual | 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 | 6443 | 4707 | 296 | 296 | 297 | 297 | 296 | 0 | 18077 |

**A. Mission Description and Budget Item Justification:** This project 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 of a (more capable) fast ferry (TSV-1X), for technology demonstration purposes, currently funded in PE 0604804A.

These systems support the Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue support for TSV advanced development to include programmatic documentation. | 6443 | 4589 | 296 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 118 | 0 |
| Totals | 6443 | 4707 | 296 |

| B. Other Program Funding Summary | 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 | 30002 | 61280 | 65380 | 3323 | 5155 | 5147 | 2982 | Continuing | Continuing |
| OPA 3, M11200, Logistic Support Vessel (LSV) | 10800 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36617 |
| OPA 3, M11203, Theatre Support Vessel(TSV) | 0 | 0 | 0 | 33177 | 42714 | 356529 | 373837 | 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(R3)

**February 2004**

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 | | 1476 | 1-4Q | 0 | | Continue | 3418 | 0 |
| b . TSV - composite prototype hull design | MIPR | Naval Underwater Warfare Center, Newport, R.I. | 0 | 3300 | 2-4Q | 911 | | 0 | | 0 | 4211 | 0 |
| c . SBIR/SBTT | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1942 | 3300 | | 2387 | | 0 | | Continue | 7629 | 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 | 421 | 2-3Q | 420 | 1-4Q | 0 | | Continue | 980 | 0 |
| b . TSV - composite prototype hull design | MIPR | CASCOM, Ft. Lee, VA | 229 | 400 | 2-3Q | 400 | 2Q | 0 | | Continue | 1029 | 0 |
| c . TSV/Matrix Support | MIPR | TARDEC, Warren, MI/ICI | 170 | 0 | | 0 | | 0 | | 0 | 170 | 0 |
| d . TSV/In-house | MIPR | PM Force Projection, Warren, MI | 832 | 672 | 2Q | 1000 | 2Q | 296 | 2Q | Continue | 2800 | 0 |
| e . TSV - composite prototype hull design | MIPR | USAEC, Ft. Eustis, VA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1493 | | 1820 | | 296 | | Continue | 5239 | 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 . TSV | MIPR | DTC/ATEC, MD | 421 | 150 | 2-3Q | 500 | 2Q | 0 | | Continue | 1071 | 0 |
| b . Harbormaster Command and Control Center (HCCC | MIPR | USATCFE, Ft. Eustis, VA | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| c . TSV | MIPR | PM WIN-T | 0 | 1500 | 4Q | 0 | | 0 | | 0 | 1500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 521 | 1650 | | 500 | | 0 | | Continue | 2671 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 510 | 0 | | 0 | | 0 | | 0 | 510 | 0 |
| Project Total Cost: | | | 4603 | 6443 | | 4707 | | 296 | | Continue | 16049 | 0 |

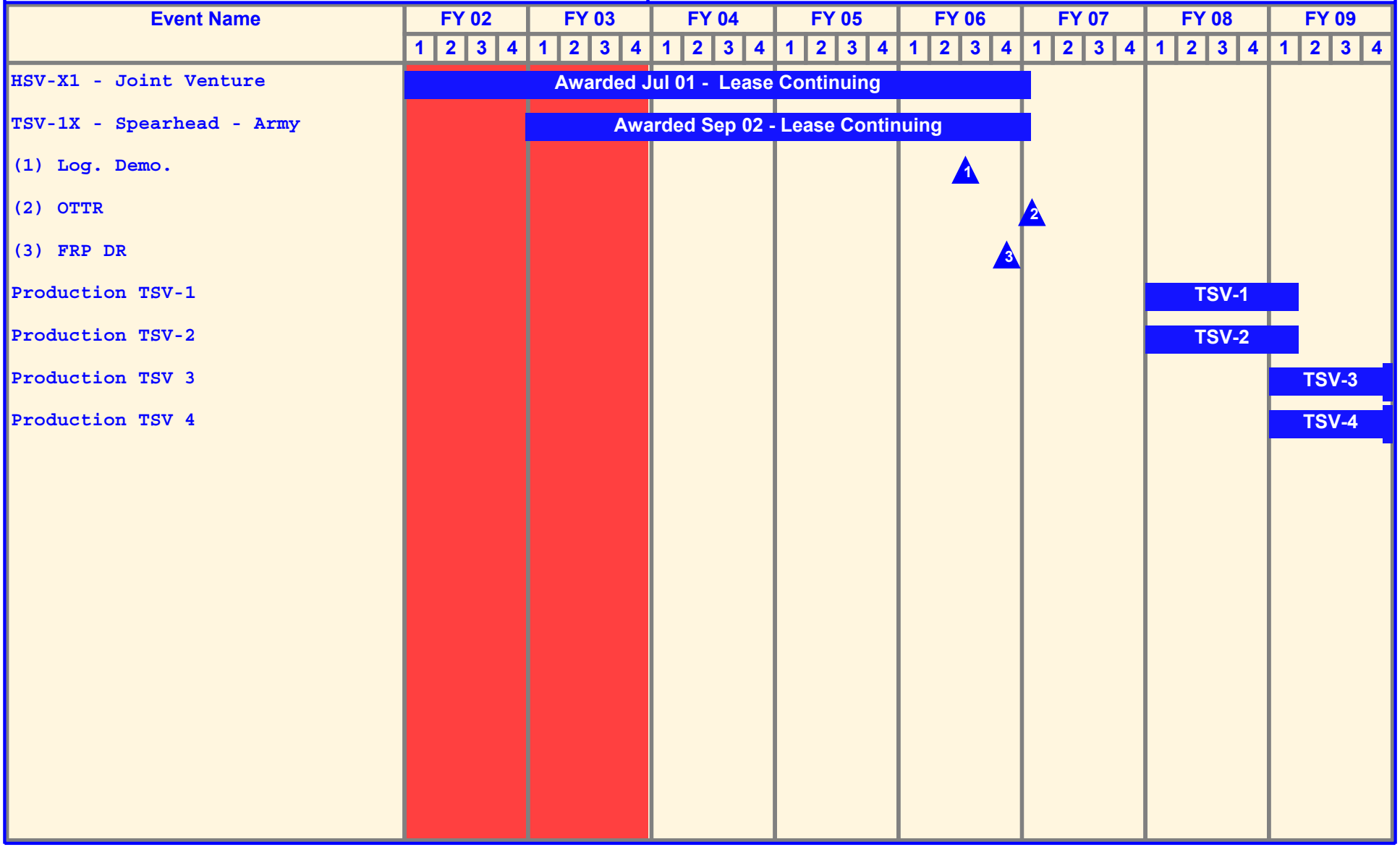
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**526**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **526** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Theatre Support Vessel Concept Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1Q | | |
| Logistic Demonstration | | | | 3Q | | | |
| Operational Test Technical Review | | | | | 1Q | | |

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

**February 2004**

| 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 2003 Actual | 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 | 1481 | 1484 | 1510 | 2879 | 2495 | 3072 | 3257 | 0 | 17749 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Initiated Small Tactical Electric Power (STEP) Program. (Formerly known as Man Portable Power (MPP) Program.) | 1381 | 0 | 0 |
| Investigated availability of commercial technology and components to be used for development of a new intelligent Power Management Distribution System (PMDS) and continue hardware test and evaluation. | 100 | 100 | 0 |
| Test and assess commercially available components for STEP. | 0 | 1345 | 0 |
| Develop STEP proof of principle prototype. | 0 | 0 | 1510 |
| Small Business Innovative Research / Small Business Technology Transfer Programs | 0 | 39 | 0 |
| Totals | 1481 | 1484 | 1510 |

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

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDT&E:PE0604804A, 194 Engine Driven Generators | 7293 | 7272 | 5954 | 7625 | 9541 | 2716 | 3337 | Continuing | Continuing |
| OPA 3, MA9800 Generators and Associated Equipment | 76088 | 72418 | 54397 | 49681 | 50191 | 50667 | 50850 | 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(R3)

**February 2004**

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 | Various | Various | 141 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . STEP Components | MIPR | CECOM - Belvoir | 0 | 721 | 1Q | 250 | 1Q | 0 | | Continue | 971 | 0 |
| c . PMDS Components | TBD | | 0 | 60 | 1Q | 0 | | 0 | | Continue | Continue | 0 |
| d . STEP Prototypes | MIPR | CECOM - Belvoir | 0 | 0 | | 0 | | 893 | 1Q | Continue | 893 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 141 | 781 | | 250 | | 893 | | 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 | Various | Various | 730 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . STEP 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 . STEP 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(R3)

**February 2004**

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 | Various | Various | 441 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . STEP Components | MIPR | CECOM-Belvoir | 0 | 150 | 1Q | 634 | 1Q | 42 | 1Q | Continue | 826 | 0 |
| c . PMDS Components | MIPR | CECOM-Belvoir | 0 | 0 | | 60 | 1Q | 0 | | Continue | Continue | 0 |
| d . STEP Prototypes | MIPR | CECOM-Belvoir | 0 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 441 | 150 | | 694 | | 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 | Various | Various | 250 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| b . STEP Components | In-house | PEO In-house | 0 | 150 | 1Q | 151 | 1Q | 0 | | Continue | 301 | 0 |
| c . STEP Prototypes | In-House | PEO In-house | 0 | 0 | | 0 | | 150 | 1Q | Continue | Continue | 0 |
| d . SIBR / STTR | | | 0 | 0 | 1Q | 39 | | 0 | | 0 | 39 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 190 | | 150 | | Continue | Continue | 0 |
| Project Total Cost: | | | 1562 | 1481 | | 1484 | | 1510 | | Continue | Continue | 0 |

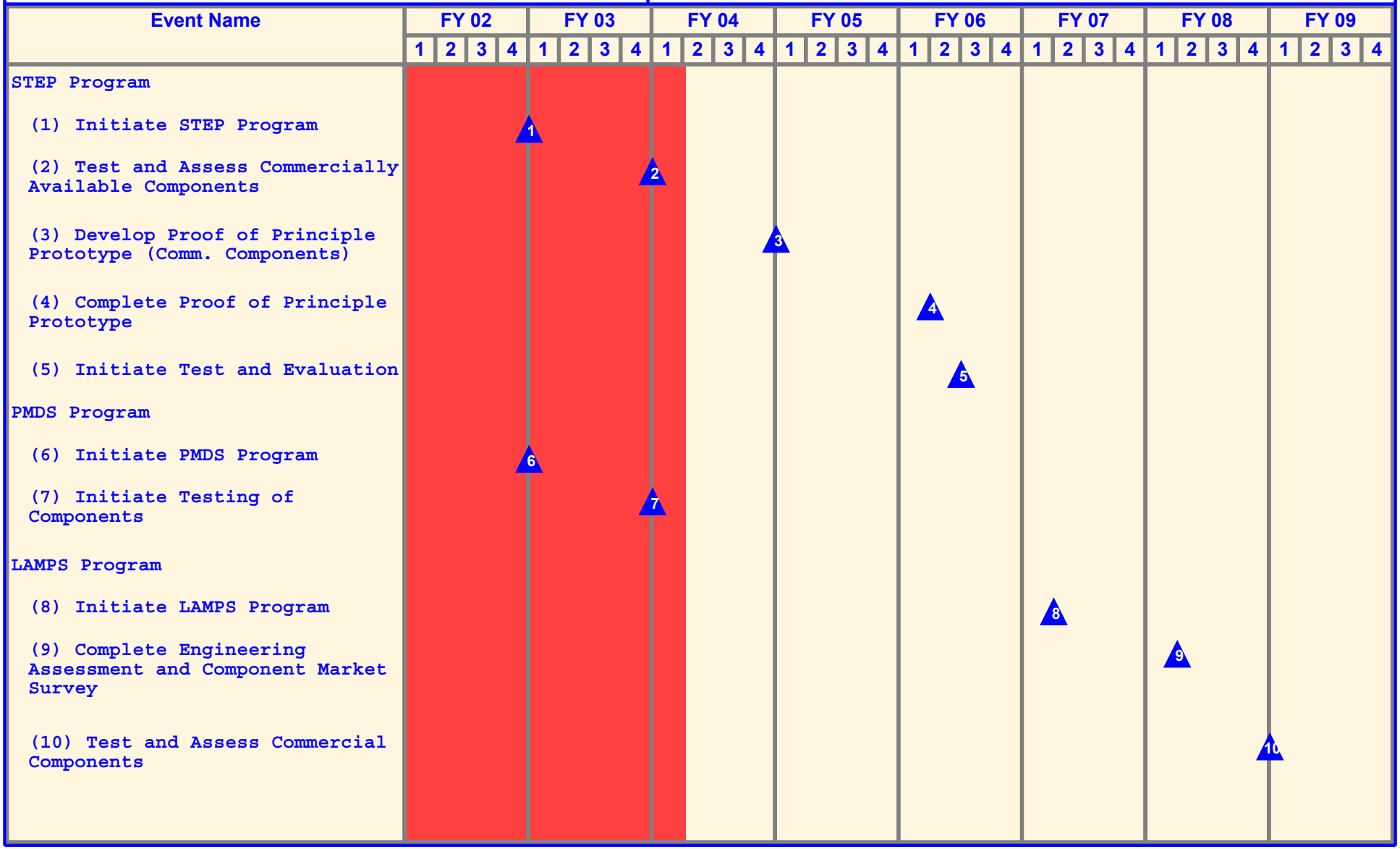
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**G11**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **G11** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Initiated STEP Program | 1Q | | | | | | |
| Initiated PMDS Program | 1Q | | | | | | |
| Initiate testing of the PMDS components | | 1Q | | | | | |
| Test and assess commercially available STEP components | | 1Q | | | | | |
| Develop STEP proof of principle prototype using best available commercial components | | | 1Q | | | | |
| Complete STEP proof of principle prototype | | | | 2Q | | | |
| Initiate test and evaluation of STEP proof of principle prototype | | | | 3Q | | | |
| Complete test and evaluation of STEP proof of principle prototype | | | | | 2Q | | |
| Transfer STEP program to System Development and Demonstration | | | | | 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 2004**

| 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 2003 Actual | 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 | 0 | 6005 | 4689 | 10067 | 10157 | 10089 | 10563 | 0 | 53117 |

**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 that provide improved safety and accuracy while increasing survivability of aircraft, personnel, and equipment. Supports the development of shelter systems 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 Quartermaster (QM) Force Transformation Strategy and The Army's Future Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary 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 Stryker Brigade Combat Team (SBCT) and Future Force Capabilities for projecting and sustaining Joint Expeditionary Forces.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct testing of Low Cost Aerial Delivery System (LCADS) to evaluate subsystems, components and aircraft compatibility. FY 04: Obtain Milestone C on LCADS low cost container. FY 05: Obtain Milestone C on LCADS Low Velocity (LV) and High Velocity (HV) parachutes. | 0 | 1890 | 911 |
| Fabricate 60k British Thermal Unit (BTU) Space Heater Convective (SHC) prototypes for initial evaluation of operational suitability. Transition SHC into System Development and Demonstration (SDD). | 0 | 990 | 0 |
| FY 04: Obtain Milestone B approval and fabricate 60k BTU Improved Environmental Control Unit (IECU) prototypes. Conduct initial evaluation of operational suitability. FY 05: Conduct Production Qualification Testing (PQT) and obtain Milestone C. | 0 | 1788 | 928 |
| 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 | 850 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct technical feasibility testing on Precision Extended Glide Airdrop Systems 2k (PEGASYS). | 0 | 1337 | 0 |
| Obtain Milestone B approval. Prepare Request For Proposals (RFP) and conduct testing on prototypes of PEGASYS 2k. | 0 | 0 | 1650 |
| Conduct market investigation for Chameleon. | 0 | 0 | 350 |
| Totals | 0 | 6005 | 4689 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, MF9000 Control Unit, Environmental | 14423 | 13544 | 1998 | 2000 | 2000 | 2000 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** Accelerate PEGASYS product development and testing to transition to System Development & Demonstration and/or Production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Force Sustainment Sys (FSS), Natick | 0 | 0 | | 1020 | 1-4Q | 735 | 1-4Q | Continue | 1755 | 0 |
| b . Soldier Support Equipment | In-house | CECOM, Ft Belvoir | 0 | 0 | | 420 | 1-4Q | 259 | 1-4Q | Continue | 679 | 0 |
| c . Soldier Support Equipment | Contracts | Various | 879 | 0 | | 2150 | 1-2Q | 1100 | 1-2Q | Continue | 4129 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 879 | 0 | | 3590 | | 2094 | | Continue | 6563 | 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(R3)

**February 2004**

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 | 1-3Q | 172 | 1-4Q | Continue | 372 | 0 |
| b . Soldier Support Equipment | MIPR | Yuma Proving Ground, AZ | 0 | 0 | | 1500 | 1-3Q | 1830 | 1-4Q | Continue | 3330 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1700 | | 2002 | | Continue | 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 . Project Management Support | In-House | PM Force Sustainment Sys (FSS), Natick | 0 | 0 | | 715 | 1-4Q | 593 | 1-4Q | Continue | 1308 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 715 | | 593 | | Continue | 1308 | 0 |
| Project Total Cost: | | | 879 | 0 | | 6005 | | 4689 | | Continue | 11573 | 0 |

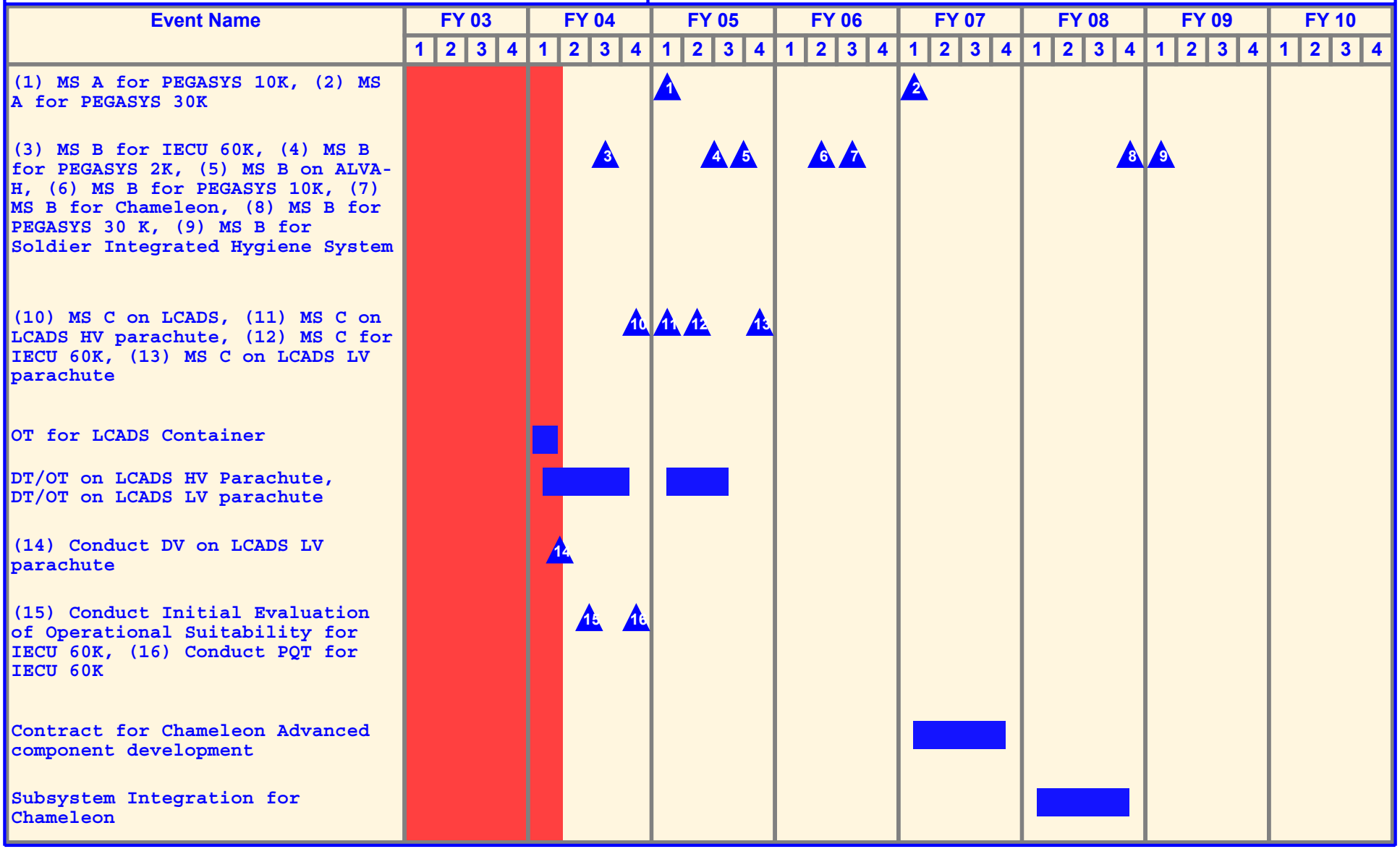
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K39**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **K39** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct Milestone B Decision on the Advanced Low-Velocity Airdrop (Heavy) Capability. | | | 3Q | | | | |
| Conduct Operational Testing on LCADS low cost container. | | 1Q | | | | | |
| Receive Milestone C decision on LCADS low cost container. | | 4Q | | | | | |
| Conduct DT on LCADS High Velocity (HV) parachute. | | 1-2Q | | | | | |
| Conduct OT on LCADS HV parachute. | | 3-4Q | | | | | |
| Conduct Design Validation (DV) on LCADS Low Velocity (LV) parachute. | | 2Q | | | | | |
| Receive Milestone C decision on LCADS HV parachute. | | | 1Q | | | | |
| Conduct DT on LCADS LV parachute. | | | 1-2Q | | | | |
| Conduct OT on LCADS LV parachute. | | | 3Q | | | | |
| Receive Milestone C decision on LCADS LV parachute. | | | 4Q | | | | |
| Conduct Milestone B for Chameleon. | | | | 3Q | | | |
| Contract for Chameleon Advanced Component Development (ACD). | | | | | 1-4Q | | |
| Initiate integration of subsystems and evaluate Chameleon prototypes. | | | | | | 1-4Q | |
| Complete subsytem integration for Chameleon and transition to System Development and Demonstration. | | | | | | 4Q | |
| Conduct Milestone B for Soldier Integrated Hygiene System. | | | | | | | 1Q |
| Obtain Milestone B decision for Precision Extended Glide Airdrop System 2k (PEGASYS) . | | | 3Q | | | | |
| Obtain Milestone A for PEGASYS 10k. | | | 1Q | | | | |
| Award contract Advance Component Development for PEGASYS 2k. | | | 1Q | | | | |
| Obtain Milestone B decision for PEGASYS 10k. | | | | 2Q | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **K39** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Obtain Milestone A decision for PEGASYS 30k. | | | | | 1Q | | |
| Obtain Milestone B for PEGASYS for 30k. | | | | | | 4Q | |
| Conduct Initial Evaluation of Operational Suitability for IECU 60k. | | 2Q | | | | | |
| Obtain Milestone B for IECU 60k. | | 3Q | | | | | |
| Conduct Production QualificationTesting for IECU 60k. | | 4Q | | | | | |
| Obtain Milestone C for IECU 60k. | | | 2Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **K41** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| K41 | WATER AND PETROLEUM DISTRIBUTION - AD | 3948 | 472 | 3990 | 3382 | 4461 | 3508 | 3427 | 0 | 27574 |

**A. Mission Description and Budget Item Justification:** Develops and demonstrates the potential of prototype equipment and technologies to satisfy petroleum storage, distribution, and quality surveillance system requirements. This Concept and Technology Development program supports the development and enhancement of rapidly deployable Petroleum and Water equipment. The mission includes developing onboard fuels and lubrication quality analysis systems; achieving greater capabilities in the removal of Nuclear, Biological, Chemical (NBC) and other contaminates from water sources; reducing the logistics foot print; developing water reutilization systems to reduce the requirement for transport of water into the theatre (this includes the water from exhaust); and material and systems to decrease the logistics foot print and employment time for the transfer of liquid logistics in the theatre. The Army cannot fight without clean fuel and drinking water. This vital equipment enables the Army to achieve its transformation vision by providing the Army with the means to be highly mobile and self-sustaining in very hostile theatres of operations.

These systems support the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Pre-Planned Product Improvements (P3I) to evaluate water purification components as improvements to the Lightweight Water Purifier (LWP), Tactical Water Purification System (TWPS). | 0 | 189 | 1622 |
| Develop technical requirements and initiate design of advanced petroleum test kits. | 314 | 0 | 0 |
| Continue development of advanced Petroleum Test Kit (PTK) and initiate performance testing. | 0 | 272 | 1239 |
| Program management support. | 464 | 0 | 0 |
| Rapidly Installed Fuel Transfer System (RIFTS) demonstration and validation effort. | 2292 | 0 | 0 |
| Investigate feasibility of producing potable water from diesel generator exhaust. | 250 | 0 | 0 |
| Conduct TWPS operational testing. | 328 | 0 | 0 |
| Perform First Article Test (FAT) of Load Handling System (LHS) Flatrack Water Tank (HIPPO). | 300 | 0 | 0 |
| Develop improved water quality analysis equipment for LWP and TWPS. | 0 | 0 | 1129 |
| Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) | 0 | 11 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 3948 | 472 | 3990 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604804.L41, Logistics and Engineer Equipment - Engineering Development | 7468 | 1681 | 3104 | 5605 | 7122 | 3650 | 3749 | Continuing | Continuing |
| OPA 3, R05600, Water Purification Systems | 9674 | 15692 | 12581 | 16865 | 11771 | 0 | 0 | Continuing | Continuing |
| OPA 3, MB6400, Quality Surveillance | 1083 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OPA 3, MA6000, Distribution Systems, Petroleum & Water | 24881 | 24475 | 38091 | 46656 | 80451 | 93924 | 150310 | Continuing | Continuing |
| OPA 3, MA4501, Modification Kits | 2943 | 824 | 838 | 828 | 829 | 829 | 831 | 0 | 7922 |

**C. Acquisition Strategy:** Develop engineering prototypes or select Non-Developmental Item based on market surveys and proposals from industry.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K41**

| 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 . LWP | CPFF | MECO, New Orleans, LA | 2999 | 0 | | 0 | | 0 | | 0 | 2999 | 2840 |
| b . Water Purification Components (P3I) | MIPR | NFESC, Port Hueneme, CA | 0 | 0 | | 0 | | 350 | 1Q | Continue | 350 | Continue |
| c . Water Purification Components (P3I) | Purchase Orders | TBD | 150 | 0 | | 32 | 2Q | 250 | 1Q | Continue | 432 | Continue |
| d . Advanced Petroleum Test Kit | In-House | TARDEC, Warren, MI | 100 | 224 | 1Q | 172 | 1Q | 379 | 1Q | Continue | 875 | Continue |
| e . Advanced Petroleum Test Kit | CPFF | TBD | 0 | 0 | | 0 | | 100 | 2Q | Continue | 100 | Continue |
| f . RIFTS | CPFF | Southwest Research Institutel, San Antonio, TX | 19 | 2292 | 2Q | 0 | | 0 | | Continue | 2311 | Continue |
| g . Water Purification Components (P3I) | In-House | TARDEC, Warren, MI | 320 | 0 | | 100 | 1Q | 200 | 1Q | Continue | 620 | Continue |
| h . Water Purification Components (P3I) | Task Order Contract | ICI, Dayton, OH | 0 | 0 | | 0 | | 150 | 2Q | Continue | 150 | Continue |
| i . Water Analysis for TWPS/LWP | In-House | TARDEC, Warren, MI | 0 | 0 | | 0 | | 250 | 1Q | 0 | 250 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K41**

| 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 . Water Analysis for TWPS/LWP | Purchase Order | TBD | 0 | 0 | | 0 | | 150 | 2Q | 0 | 150 | 0 |
| k . Water from Engine Exhaust | CPFF | Lexcarb, Lexington KY | 0 | 250 | 3Q | 0 | | 0 | | 0 | 250 | 0 |
| l . FSSP (P3I) | | | 140 | 0 | 2Q | 11 | | 0 | | 0 | 151 | 0 |
| m . SBIR / STTR | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3728 | 2766 | | 315 | | 1829 | | Continue | 8638 | 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 . Water Purification Components (P3I) | In-House | TARDEC, Warren, MI | 100 | 0 | | 0 | | 200 | 1Q | Continue | 300 | Continue |
| b . Advanced petroleum test kit | In-House | TACOM, Warren, MI | 25 | 40 | 1Q | 40 | 1Q | 25 | 1Q | Continue | 130 | Continue |
| c . Water Analysis for TWPS/LWP | In-House | TARDEC, Warren, MI | 0 | 0 | | 0 | | 200 | 1Q | 0 | 200 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K41**

| 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: | | | 125 | 40 | | 40 | | 425 | | Continue | 630 | 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 . LWP | MIPR | ATEC, Aberdeen Proving Grounds, MD | 513 | 0 | | 0 | | 0 | | 0 | 513 | 513 |
| b . LWP | In House | TARDEC, Warren, MI | 534 | 0 | | 0 | | 0 | | 0 | 534 | 534 |
| c . LWP | MIPR | NFESC, Port Huaneme, CA | 157 | 0 | | 0 | | 0 | | Continue | 157 | Continue |
| d . Water Purification Components (P3I) | In House | TARDEC, Warren, MI | 322 | 0 | | 57 | 1Q | 472 | 1Q | Continue | 851 | Continue |
| e . Advanced petroleum test kit | In-house | TARDEC, Warren, MI | 0 | 25 | 2Q | 40 | 1Q | 839 | 1Q | Continue | 904 | Continue |
| f . LWP | MIPR | TEXCOM, Ft Hood, TX | 30 | 0 | | 0 | | 0 | | 0 | 30 | 30 |
| g . TWPS | MIPR | TEXCOM | 0 | 328 | 3Q | 0 | | 0 | | 0 | 328 | 0 |
| h . HIPPO | MIPR | ATC | 0 | 300 | 3Q | 0 | | 0 | | 0 | 300 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K41**

| 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 . Water Analysis for TWPS/LWP | In House | TARDEC, Warren, MI | 0 | 0 | | 0 | | 100 | 1Q | 0 | 100 | 0 |
| j . Water Analysis for TWPS/LWP | MIPR | CHPPM | 0 | 0 | | 0 | | 300 | 1Q | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1556 | 653 | | 97 | | 1711 | | Continue | 4017 | 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 . Advanced Petroleum Test Kit | In-House | TACOM, Warren, MI | 25 | 25 | 1Q | 20 | 1Q | 25 | 1Q | Continue | 95 | 0 |
| b . Program Management Support | In-House | TACOM, Warren, MI | 768 | 464 | 1-2Q | 0 | | 0 | | Continue | 1232 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 793 | 489 | | 20 | | 25 | | Continue | 1327 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 6202 | 3948 | | 472 | | 3990 | | Continue | 14612 | Continue |

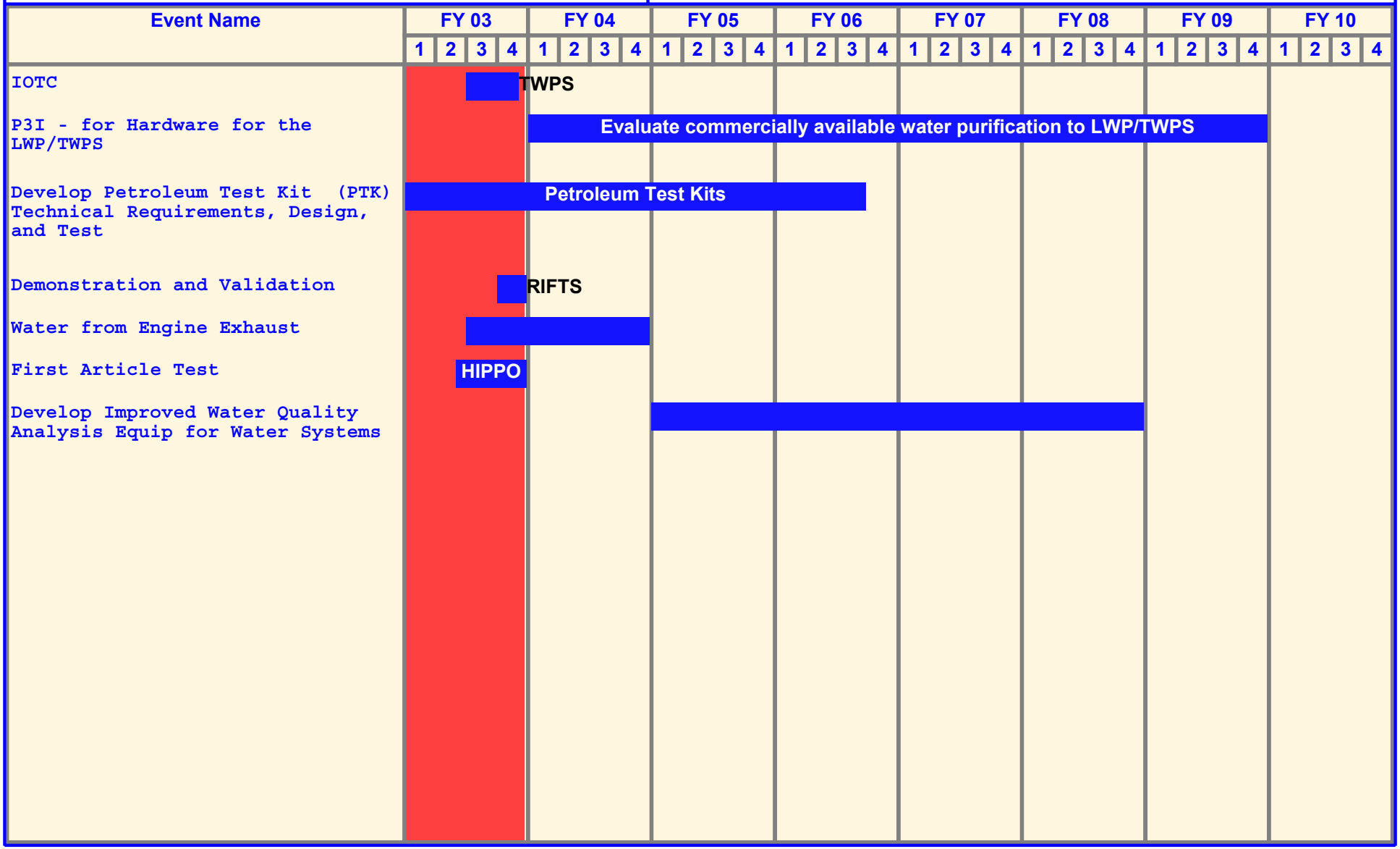
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603804A - Logistics and Engineer Equipment - Adv Dev**

PROJECT
**K41**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603804A - Logistics and Engineer Equipment - Adv Dev** | **K41** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| TWPS IOTC | 3-4Q | | | | | | |
| (P3I) Evaluate commercially available water purification components as improvements to LWP & TWPS. | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Develop technical requirements, design, and test of advanced petroleum test kits. | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | | |
| RIFTS demonstration and validation effort. | 4Q | | | | | | |
| Water from engine exhaust | 3-4Q | 1-4Q | | | | | |
| Program Management Support | 1-4Q | | | | | | |
| HIPPO FAT | 2-4Q | | | | | | |
| Develop improved water quality analysis equipment for LWP/TWPS | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| 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 2003 Actual | 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 | 8275 | 8585 | 6366 | 8456 | 5765 | 8533 | 8472 | 0 | 76474 |

**A. Mission Description and Budget Item Justification:** The Battle Command Sustainment Support System (BCS3) is the logistical command and control (C2) system that reflects the Army's emphasis on Future Force warfighting capabilities giving commanders, for the first time, "actionable logistics information" in the form of an automated view of the battlefield coupled with the logistics positioning of supplies. BCS3 has immediate, high pay-off benefit to warfighters and additional future growth in its capabilities. BCS3 represents a major step forward in acquisition innovation coupling spiral development and the end-user in its design. It is the Army's maneuver sustainment C2 system – the fusion center -- at all echelons brigade and above, fusing, for the first time, sustainment, in-transit, and force data to aid field commanders in making critical decisions. BCS3 is part of the bridge to Future Combat System and applies lessons learned from previous programs. BCS3 provides assured soldier support and is modular, tailorable, and scaleable to meet the full spectrum of operations (to include garrison, training, contingency and combat) and interoperates with Army Battle Command Systems (ABCS). BCS3 is a force multiplier - a precision tool for logistics planning and execution – that provides the soldiers and commanders with the necessary tools to succeed.

BCS3 development is based upon a "best of breed" concept that leverages recent demonstrated successes of the Logistics Common Operational Picture (LCOP) process in Operation Iraqi Freedom (OIF) as well as the core capabilities of its predecessor integrated into a single lightweight platform. BCS3 provides the latest available map based graphical representation of the current situation within the Area of Operation (AO) to include all friendly and enemy, locations, and unit status, and displays this operating picture with enhanced briefings and data management capabilities. BCS3 supports Joint requirements by providing the Army's portion of the Joint Logistics Common Relevant Operational Picture (LOG CROP). This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Add Version 4.6.3 (Initial Combat power). | 653 | 0 | 0 |
| Add Version 4.6.3.1(ABCS 6.3D) Development | 5477 | 5888 | 0 |
| Support to Stryker Brigade Combat Team (SBCT)/Warfighting Experiments/Counter Attack Corps) | 2145 | 1865 | 0 |
| Support to Training Development(Performance Support System/Distributed Training (PSS/DTV). | 0 | 832 | 0 |
| BCS3 Development | 0 | 0 | 0 |
| LCOP Integration | 0 | 0 | 1340 |
| CAPES Integration | 0 | 0 | 820 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| LCOP/JDLM Simulation | 0 | 0 | 0 |
| Continued Development of Joint,Logistic Info Systems(LIS) Interfaces and maintain interoperability requirements. | 0 | 0 | 4206 |
| Training Development | 0 | 0 | 0 |
| Operational Testing | 0 | 0 | 0 |
| Program Office | 0 | 0 | 0 |
| Totals | 8275 | 8585 | 6366 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 8415 | 8682 | 8658 |
| Current Budget (FY 2005 PB) | 8275 | 8585 | 6366 |
| Total Adjustments | -140 | -97 | -2292 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -140 | -97 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -2292 |

FY 2005 reduction due to "Good Enough" Program revisions.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| Procurement, OPA 2 (W34600) | 24314 | 22032 | 11909 | 12485 | 12499 | 12500 | 12528 | 56354 | 189128 |
| Standardized Integrated Command Post Systems (SICPS) (BZ9962) | 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 BCS3 acquisition strategy uses a spiral development process that 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 to include initial horizontal interoperability with other Battlefield Functional Area (BFA) systems. Version 4 development included expansion to echelons above Corps (EAC) but has recently undergone additional modification to include BCS3 functionality. BCS3 leverages key identified CSS functionality from the original capability and integrates it with ABCS systems and with numerous national level databases to provide multi-echelon CSS planning and enhanced combat power analysis capabilities. The objective software will provide functionality from tactical (down to maneuver brigade) to strategic level and extend capabilities to Joint, allied and coalition forces. Northrop Grumman is the lead software development contractor, with Tapestry Software Solutions as a Sub contractor. Lockheed Martin Corporation (LMC) provides training development. Hardware is procured from the Common Hardware Systems-2 (CHS-2) contract with General Dynamics (GD).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | Northrop Grumman, Carson, CA | 113581 | 5176 | 1-2Q | 6093 | 1-2Q | 4260 | 1-2Q | Continue | 129110 | Continue |
| b . Training Development | C/TM | Lockheed Martin, Tinton Falls, NJ | 9503 | 1593 | 1-2Q | 832 | 1-2Q | 349 | 1-2Q | Continue | Continue | Continue |
| c . ABCS SE&I Effort | MIPR | PEO C3S, Ft Monmouth, NJ | 7485 | 201 | | 0 | | 0 | | 0 | 7686 | 7485 |
| d . GFE | MIPR | Various | 3601 | 0 | | 0 | | 0 | | 0 | 3601 | 3601 |
| | | | | | | | | | | | | |
| Subtotal: | | | 134170 | 6970 | | 6925 | | 4609 | | 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 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603805A - Combat Service Support Control System Evaluation a**

PROJECT
**091**

| 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: | | | 14550 | 0 | | 0 | | 0 | | 0 | 14550 | 14550 |

| 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 | 0 | 1-4Q | 0 | 1868 | 2468 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8231 | 120 | | 120 | | 0 | | 0 | 8471 | 9071 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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

PE NUMBER AND TITLE
**0603805A - Combat Service Support Control System Evaluation a**

PROJECT
**091**

| 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 | 1757 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 18319 | 1185 | | 1540 | | 1757 | | Continue | Continue | Continue |
| Project Total Cost: | | | 175270 | 8275 | | 8585 | | 6366 | | Continue | Continue | Continue |

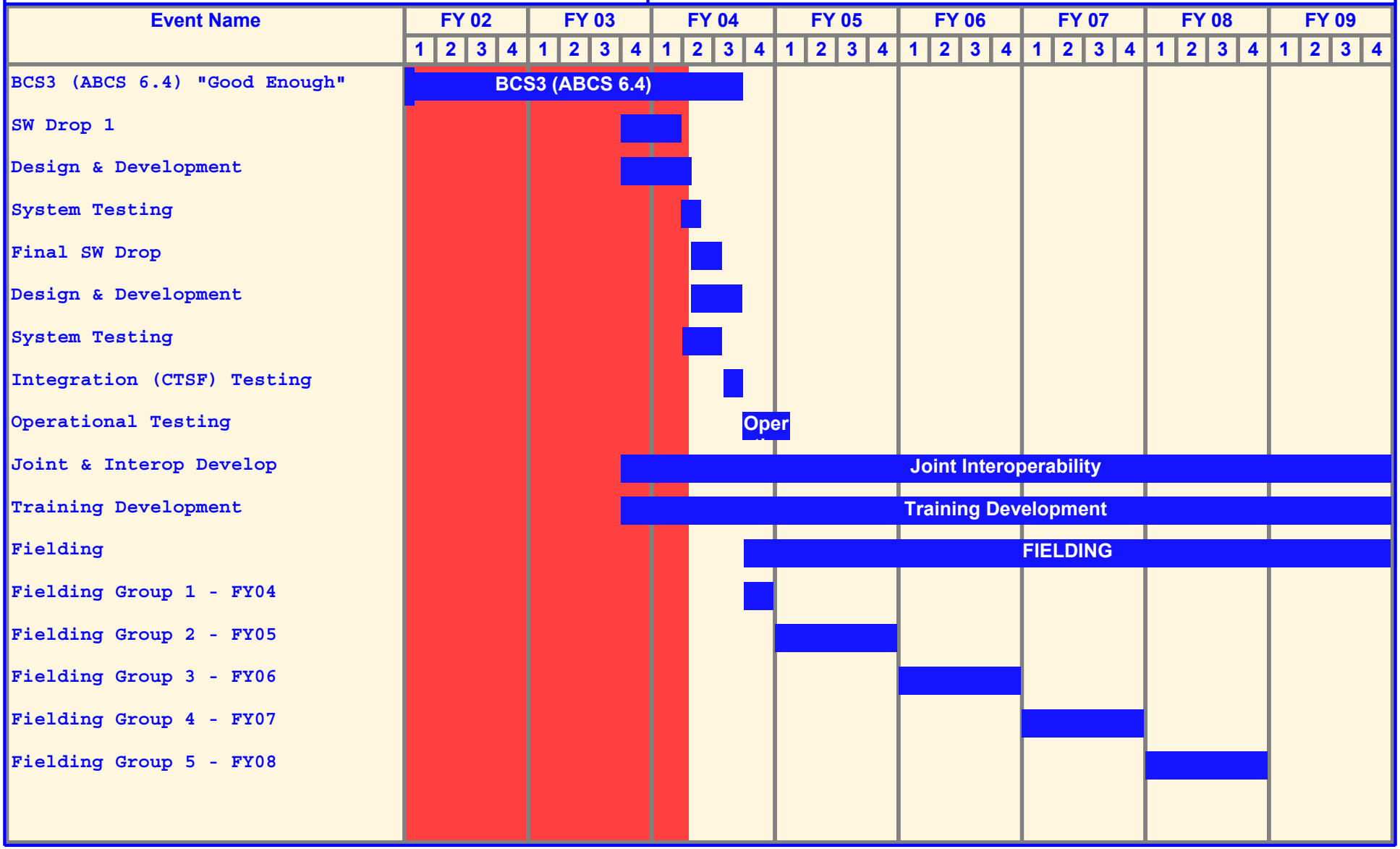
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603805A - Combat Service Support Control System Evaluation a**

PROJECT
**091**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Added Version 4.6.3 (Initial Combat power) | 1-4Q | | | | | | |
| Add Version 4.6.3.1 (ABCS 6.3D) Development | 1-4Q | | | | | | |
| Support to Stryker Brigade Combat Team (SBCT) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| Support to Training Dev PSS/DTV | 1-4Q | | | | | | |
| BCS3 Development | | 1-4Q | | | | | |
| LCOP Integration | | 1-4Q | 1-4Q | | | | |
| CAPES Integration | | | 1-4Q | | | | |
| LCOP/JDLM Simulation | | 1-4Q | 1-4Q | | | | |
| Continued Development of Joint, Logistic Info System (LIS) Interfaces and Maintain Interoperability | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Training Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Operational Testing | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Program Management | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

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

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 13280 | 13392 | 10258 | 10458 | 11929 | 13193 | 12666 | Continuing | Continuing |
| 808 | DOD DRUG & VACC AD | 4884 | 5484 | 5421 | 5566 | 5510 | 6401 | 6151 | Continuing | Continuing |
| 811 | MIL HIV VAC&DRUG DEV | 0 | 135 | 0 | 146 | 147 | 146 | 146 | Continuing | Continuing |
| 836 | COMBAT MEDICAL MATL AD | 3820 | 4180 | 4095 | 3804 | 3781 | 4803 | 4602 | Continuing | Continuing |
| 837 | SOLDIER SYS PROT-AD | 849 | 1120 | 742 | 942 | 2491 | 1843 | 1767 | Continuing | Continuing |
| A01 | COMBAT SUPPORT HOSPITAL - MOBILE SURGICAL UNIT | 2388 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2387 |
| MD4 | FUTURE MEDICAL SHELTER | 1339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4696 |
| MD7 | AUTOMATED LABORATORIES FOR BIODEFENSE (CA) | 0 | 2473 | 0 | 0 | 0 | 0 | 0 | 0 | 2473 |

**A. Mission Description and Budget Item Justification:** This program element (PE) funds advanced development of medical materiel within the early-on system integration in 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 Future Force (F2) requirements stressed within the concept documents and organizational structures. The PE provides funding for early Phase 1 and 2 U.S. Food and Drug Administration (FDA) regulated human clinical trials. The major enablers that will be supported by this PE are as follows:

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 injuries are the largest contributors to the medical footprint. Significant reductions in echelon 3 facilities can be achieved by reducing the number of ill soldiers. Equally important, the reduction of patient evacuation within F2 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 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 F2 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 Future Force transition path of the Army Transformation Campaign Plan (TCP).

There are no Defense Emergency Response Funds provided to this program or project.

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 13340 | 11042 | 10012 |
| Current Budget (FY 2005 PB) | 13280 | 13392 | 10258 |
| Total Adjustments | -60 | 2350 | 246 |
| Congressional program reductions | | -127 | |
| Congressional rescissions | | | |
| Congressional increases | | 2500 | |
| Reprogrammings | -60 | -23 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 246 |

Change Summary Explanation: Funding - FY 2004: Congressional add for Automated Laboratories for Biodefense (+2,500).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **808** |

| COST (In Thousands) | FY 2003 Actual | 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 | 4884 | 5484 | 5421 | 5566 | 5510 | 6401 | 6151 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical countermeasures for infectious diseases that occur within militarily relevant areas of the world. Current 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 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). The reduction in risk to contract infectious diseases within the force supports the Army Transformation Campaign Plan (TCP) and directly enables the Future Force concept through reduction of evacuations of uniquely qualified soldiers and decrease in medical footprint to sustain these evacuees.

There are no Defense Emergency Response Funds provided to this program or project.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Reviews, evaluations, and trials of malarial/anti-malarial vaccines, drugs, and diagnostics: In FY03, initiated planning and contract modification to conduct true negative trials and initiated a fingerstick (OCONUS) trial of the Malaria Rapid Diagnostic Device (MRDD); initiated preparations for a Phase 1/2 safety and efficacy trial with RTS,S/improved adjuvant (P. falciparum) malaria vaccine in U.S. volunteers. In FY04, conduct true negative (CONUS) and complete fingerstick (OCONUS) trials with the MRDD; initiate a Phase 1/2 safety and efficacy trial with RTS,S/improved adjuvant (P. falciparum) malaria vaccine in U.S. volunteers. In FY05, conduct a MS C IPR to transition the MRDD to full-rate production and deployment; conduct a Critical Design Review to determine if the RTS,S/improved adjuvant (P. falciparum) malaria vaccine should continue to advanced Phase 2/3 testing OCONUS. | 1529 | 2004 | 5031 |
| Clinical trials, safety evaluations, and reviews of diarrheal vaccines. In FY03, planned and initiated protocol review for a Phase 2 safety and immunogenicity study of a Shigella flexneri vaccine OCONUS. | 521 | 0 | 0 |
| Trials, evaluations, and reviews for grouped infectious disease vaccines and drugs (Hepatitis E and Leishmania). In FY03, continued a multiyear Phase 2 field trial in Nepal to evaluate the effectiveness of Hepatitis E vaccine; completed pre-clinical studies for submission of a new Investigational New Drug (IND) for good manufacturing practices (GMP) for L. tropica skin test kits and initiated drafting of a Phase 1 safety trial protocol with industry partner's Leishmania skin test kits; initiated a Phase 2 clinical trial of paromomycin/gentamicin topical antileishmanial cream in France and Tunisia to treat Old World leishmaniasis. In FY04, complete evaluation of the results of the multiyear Phase 2 trial of the Hepatitis E vaccine conducted in Nepal; conduct an In Process Review on the Hepatitis E vaccine to determine future development plans; complete the Phase 2 field trial of the paromomycin/gentamicin topical antileishmanial cream; transition the paromomycin/gentamicin topical antileishmanial cream to a co-development partner; complete Phase 1 safety trial with Leishmania skin test kits. | 1748 | 508 | 0 |
| In FY03, initiated a Phase 1b dengue tetravalent vaccine pediatric trial and began a 5-year follow-up; continued production and testing of master dengue vaccine seeds; initiated a protocol for a Phase 2 study in Panama. In FY04, conduct a Phase 2 study in second OCONUS dengue endemic area; complete production and testing of master vaccine seeds. In FY05, conduct a Critical Design Review and transition to Phase 3 field-testing. | 881 | 2871 | 390 |
| Developmental test and evaluation, and reviews of insect vector control products: In FY03, conducted a Special IPR to terminate the development of the lethal trap for dengue vectors program; initiated contracting for a preplanned product improvement to develop new dispensers for camouflage face paint with insect repellent and reduced infrared signature. | 205 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 101 | 0 |
| Totals | 4884 | 5484 | 5421 |

**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(R3)

**February 2004**

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 | 439 | | 475 | | 448 | | Continue | 4305 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2943 | 439 | | 475 | | 448 | | Continue | 4305 | 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 | 147 | | 158 | | 149 | | Continue | 848 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 394 | 147 | | 158 | | 149 | | Continue | 848 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 3517 | | 4007 | | 4025 | | Continue | 21404 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9855 | 3517 | | 4007 | | 4025 | | Continue | 21404 | 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 | 781 | | 844 | | 799 | | Continue | 4519 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2095 | 781 | | 844 | | 799 | | Continue | 4519 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 15287 | 4884 | | 5484 | | 5421 | | Continue | 31076 | Continue |

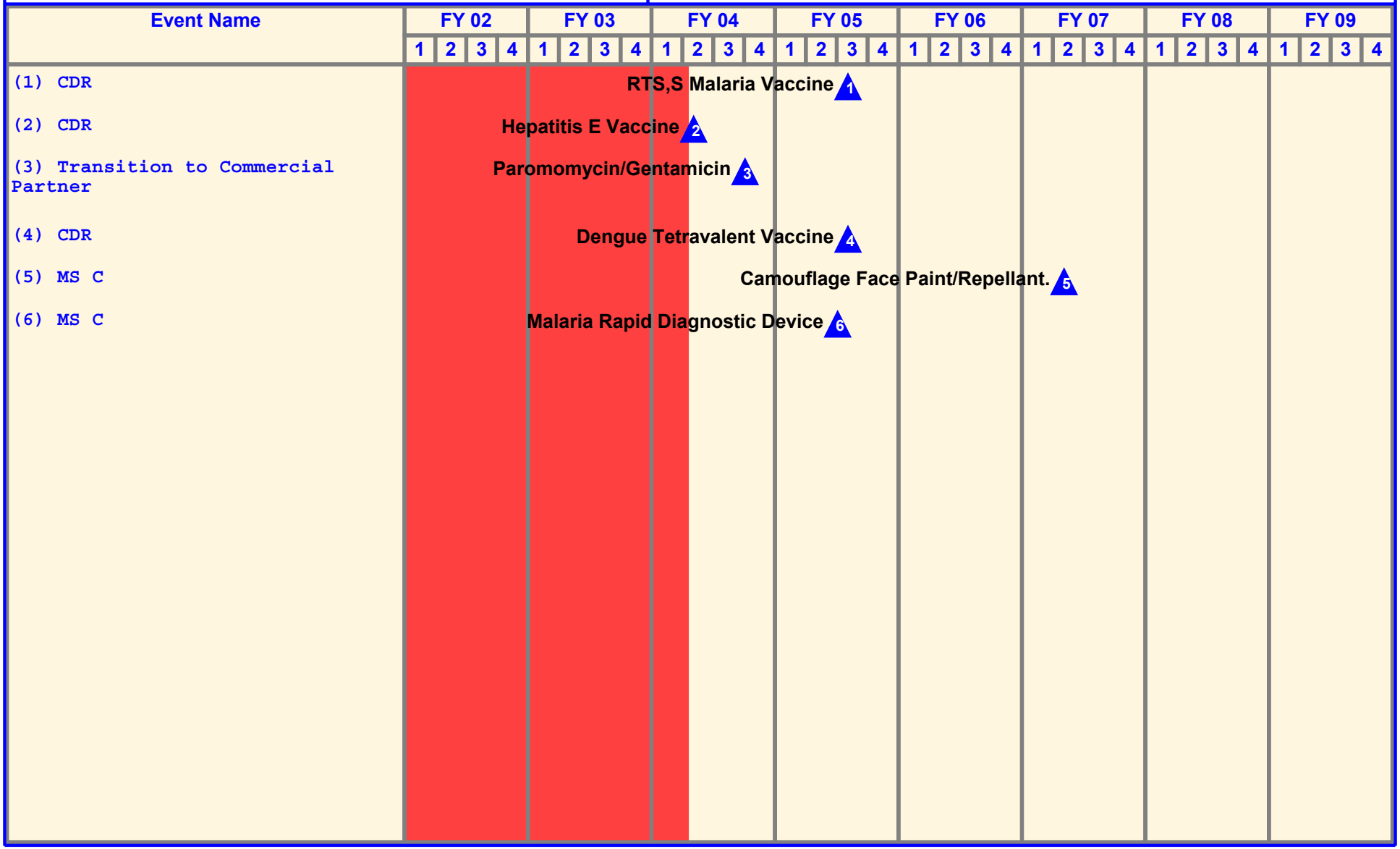
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**808**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **808** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Paromomycin/Gentamicin | | 3-4Q | | | | | |
| Hepatitis E vaccine | | 3-4Q | | | | | |
| RTS,S/improved adjuvant (P. falciparum) malaria vaccine | | | 1Q | | | | |
| Malaria Rapid Diagnostic Device (Milestone C) | | | 3Q | | | | |
| Camouflage face paint (MS C) (Repellent: Thermal) | | | | | 2Q | | |
| Dengue tetravalent vaccine (Critical Design Review) | | | 3Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **836** |

| COST (In Thousands) | FY 2003 Actual | 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 | 3820 | 4180 | 4095 | 3804 | 3781 | 4803 | 4602 | 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 support both the Army Transformation Campaign Plan (TCP) and Future Force doctrine/organizational structure.

There are no Defense Emergency Response Funds provided to this program or project.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Hemostatic Dressing (HD): FY03: Completed Battlefield Investigational New Drug Protocol, received U.S. Food and Drug Administration (FDA) approval, and implemented protocol in Operation Iraqi Freedom. Delayed Phase 1/2 clinical trials due to American Red Cross financial problems. FY04: Directly compare HD to a competitor, the Chitosan Bandage, in a series of animal studies. Attain Milestone B (MS B) FY05: Continuation of this program is dependent on the outcome of the comparative studies. | 1565 | 1064 | 2900 |
| Demonstrate, evaluate, and continue to develop medical evacuation systems. Special Medical Emergency Evacuation Device (SMEED): FY03: Conducted computer-simulation and determined further testing is required. Completed the U.S. Air Force Air Worthiness Release (AWR) certification. Completed patent licensure to commercial vendor. Awaiting results of simulation prior to AWR testing and certification by the Army. FY04: Complete AWR and Crash Worthiness Testing, attain Milestone C (MS C), and field basic systems. | 200 | 50 | 0 |

| **Accomplishments/Planned Program (continued)** | 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): FY03: Completed fabrication of ceramic oxygen cell structures. Built and demonstrated a 3-liter per minute prototype generator. Began developing heat exchangers, enclosure, controls, and start up heater. FY04: Attain MS B. Begin development of full-scale engineering development model. FY05: Continue development of full-scale model, and refine manufacturing process to use existing device manufacturing techniques found in the electronics industry. (2) Ventilatory Assist Device (VAD): FY03: Completed user evaluation. Prepared final test report. FY04: 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. Attain Milestone B (MS B). (3) Pressure Swing Adsorption Oxygen Generator (PSAOC): FY03: Terminated PSAOG project due to change in operational requirements. (4) One-Handed Tourniquet (OHT): FY03: Developed portable training package. Conducted user evaluation of 5,000 units with SOCOM and received no adverse reports. Started human use technical testing and human factors evaluation. FY04: Develop a product specification and Technical Data Package. Attain Milestone C. (5) Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG): FY03: Built initial advanced development prototype. FY04: Design advanced prototype to use smaller, lighter and more efficient air compressor. Test reliability of new compressor. Attain Milestone B. 6) Non-Contact Respiration Monitor (NCRM): FY03: Developed first prototype, and demonstrated technical feasibility. FY04: Refine respiration sensor, miniaturize electronics, and reduce prototype weight and volume. FY05: Conduct user evaluation and attain Milestone B. | 2055 | 2992 | 1195 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 74 | 0 |
| Totals | 3820 | 4180 | 4095 |

**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(R3)

**February 2004**

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 | 1565 | | 1000 | 4Q | 3214 | | Continue | 9547 | 0 |
| b . No other contract exceeds $1M | | | 11824 | 0 | | 0 | | 0 | | 0 | 11824 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15592 | 1565 | | 1000 | | 3214 | | Continue | 21371 | 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(R3)

**February 2004**

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 | 2255 | | 3180 | | 881 | | 0 | 10752 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4436 | 2255 | | 3180 | | 881 | | 0 | 10752 | 0 |
| Project Total Cost: | | | 20028 | 3820 | | 4180 | | 4095 | | Continue | 32123 | 0 |

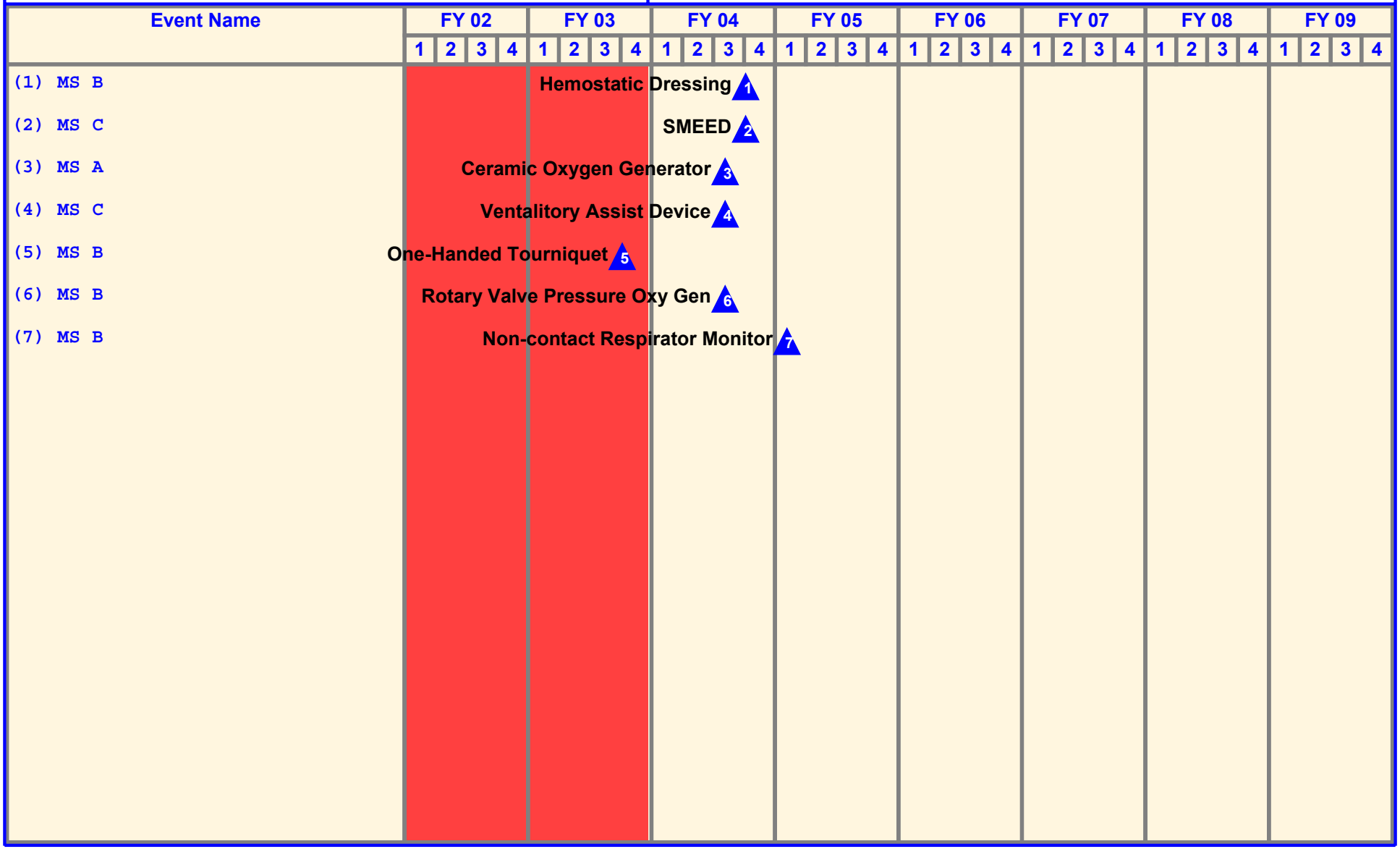
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603807A - Medical Systems - Adv Dev**

PROJECT
**836**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603807A - Medical Systems - Adv Dev** | **836** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Hemostatic Dressing (MS B) | | 4Q | | | | | |
| SMEED ( MS C) | | 4Q | | | | | |
| Ceramic Oxygen Generator Systems(MS B ) | | 3Q | | | | | |
| Ventilatory Assist Device (MS C) | | 3Q | | | | | |
| One-Handed Tourniquet (MS B) | 4Q | | | | | | |
| Rotary Valve Pressure Swing Oxygen Generator (MS B) | | 3Q | | | | | |
| Non-Contact Respiration Monitor (MSB) | | | 1Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603850A - Integrated Broadcast Service (JMIP/DISTP)** | **472** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 1928 | 2073 | 4356 | 2769 | 0 | 0 | 0 | 0 | 13086 |

**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 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 enhancements to the family of 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. As recommended by the Analysis of Alternatives study concerning the JTT capabilities migration to JTRS, JTT will convert legacy IBS waveforms (IBS-I, IBS-S, TRIXs and TADIX-B) to a Software Communication Architecture (SCA) compliant equivalent and deliver those waveforms to the JTRS Joint Program Office (JPO) for inclusion in the JTRS waveform library. JTT will integrate the SCA compliant objective IBS waveform into the JTT system as it becomes available from the JTRS JPO.

These system modifications support the Future Force transition path of the Transformation Campaign Plan (TCP).

FY 05 Funds support the development & test of JTRS SCA compliance.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop and test modules for Software Communications Architecture (SCA) compliant legacy waveforms for JTRS. | 1608 | 2073 | 2000 |
| Joint Interoperability Test Command (JITC) Certification of Block 3.0 development for Interoperability and DAMA compliance. | 320 | 0 | 0 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop Integrated Broadcast Service (IBS) Common Message Format (CMF) to support migration to the IBS Worldwide standard DOD Network | 0 | 0 | 2356 |
| Totals | 1928 | 2073 | 4356 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 1927 | 2097 | 1901 |
| Current Budget (FY 2005 PB) | 1928 | 2073 | 4356 |
| Total Adjustments | 1 | -24 | 2455 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 2500 |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| V29600 Other Procurement, Army - JTT/CIBS-M (Tiara), | 4693 | 41380 | 13993 | 9987 | 999 | 1000 | 752 | 0 | 90489 |

**C. Other Program Funding Summary:** FY04 +$41.4M OPA (V29600) OIF Supplemental for additional quantity of JTTs

**D. Acquisition Strategy:** Modifications to IBS modules for the design and development of JTRS SCA compliant software modules will be awarded non-competitively to Raytheon, the original equipment manufacturer of the 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(R3)

**February 2004**

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 | 978 | 1Q | 1388 | 1Q | 1291 | 1Q | 0 | 3948 | 3712 |
| b . Common Message Format | CPFF | Raytheon, St. Petersburg, FL | 0 | 0 | | 0 | | 2325 | 1Q | 0 | 2325 | 2320 |
| | | | | | | | | | | | | |
| Subtotal: | | | 291 | 978 | | 1388 | | 3616 | | 0 | 6273 | 6032 |

| 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 | 285 | 1Q | 240 | 1Q | 0 | 960 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 145 | 290 | | 285 | | 240 | | 0 | 960 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
| c . CMF Certification | MIPR | Various | 0 | 0 | | 0 | | 100 | 1Q | 0 | 100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1402 | 200 | | 200 | | 300 | | 0 | 2102 | 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 | 200 | 1Q | 200 | 1Q | 0 | 982 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 122 | 460 | | 200 | | 200 | | 0 | 982 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 1960 | 1928 | | 2073 | | 4356 | | 0 | 10317 | 6032 |

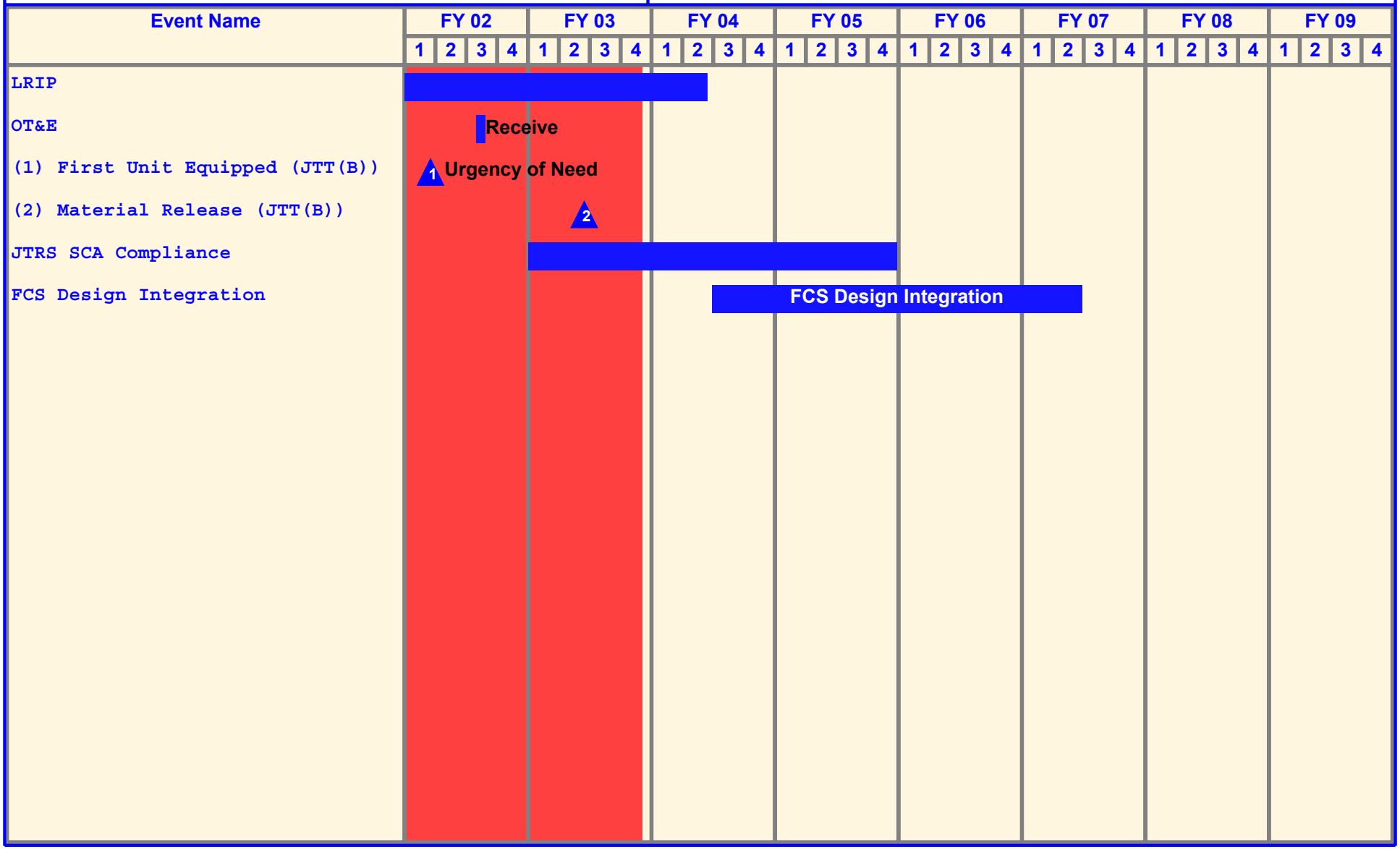
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603850A - Integrated Broadcast Service (JMIP/DISTP)**

PROJECT
**472**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603850A - Integrated Broadcast Service (JMIP/DISTP)** | **472** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Development of SCA Compliant Legacy Waveforms for JTRS | 1-2Q | | | | | | |
| Demonstration of SCA Compliant Legacy Waveforms for JTRS | 3-4Q | | | | | | |
| JITC Certification E8 Interop | 1Q | | | | | | |
| JITC Certification of IBS | 3Q | | | | | | |
| Completion of JTRS SCA Modules | | 1-4Q | 1-4Q | | | | |
| JITC Certification of JTRS SCA Modules | | 1Q | 1Q | 1Q | | | |
| Common Message Format Development | | | 3-4Q | 1-3Q | | | |
| JITC Certification of CMF | | | | 4Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603854A - Artillery Systems - Dem/Val** |

| COST (In Thousands) | FY 2003 Actual | 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 | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 388651 |
| F47 OBJECTIVE FORCE INDIRECT FIRES | 306778 | 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 0604647A, project F58, in accordance with Congressional directive.

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 current transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 356651 | 0 | 0 |
| Current Budget (FY 2005 PB) | 306778 | 0 | 0 |
| Total Adjustments | -49873 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -49873 | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | |

Funding was reprogrammed to support FCS project Networked Fires System Technology (PE 63645A - F48).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603856A - SCAMP Block II** | **389** |

| COST (In Thousands) | FY 2003 Actual | 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 SEP | 14102 | 27716 | 10221 | 9253 | 0 | 0 | 0 | 0 | 87442 |

**A. Mission Description and Budget Item Justification:** The SCAMP Block II program, consisting of two terminals, the SCAMP Manportable System Enhancement Program(SEP)terminal and the SCAMP Manpackable Terminal in support of the Advanced Extremely High Frequency (AEHF) Satellite Program, is being realigned. The Army redirected the AEHF SCAMP Manpackable requirements to realign to the emerging WIN-T Operational Requirements Document(ORD)/Multi-band Integrated Satellite Terminal (MIST) program in support of the Future Combat System/Future Force. The Army renamed Project Element 0603856A/D389 as SCAMP SEP to reflect the realigned mission. The SCAMP SEP terminal supports the requirements in the Joint AEHF ORD and provides worldwide anti-jam, low probability of intercept and detection and assured voice and data communications for the joint global warfighter. SCAMP SEP will transmit 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. SCAMP SEP will transmit and receive intelligence, situational awareness, as well as command and control traffic.

The SCAMP Manportable SEP terminal upgrades existing SCAMP 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| AEHF SCAMP SEP modification kit development | 12946 | 20487 | 8896 |
| Develop and integrate SCAMP SEP additional test resources and conduct Development Tests | 0 | 4878 | 570 |
| Development and test of 2 AEHF SCAMP Manpackable prototypes | 150 | 0 | 0 |
| Support to AEHF Satellite Program, Baseband Working Groups and Technical Interchange Meetings | 1006 | 1551 | 755 |
| SBIR/STTR | 0 | 800 | 0 |
| Totals | 14102 | 27716 | 10221 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603856A - SCAMP Block II** | **389** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 14352 | 28028 | 15107 |
| Current Budget (FY 2005 PB) | 14102 | 27716 | 10221 |
| Total Adjustments | -250 | -312 | -4886 |
| Congressional program reductions | | -263 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -250 | -49 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -4886 |

FY05 funds realigned $4.886M to higher priority Army requirements.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| BC4110 - SCAMP SEP | 0 | 0 | 0 | 11684 | 14408 | 11379 | 7048 | Continue | Continue |

**D. Acquisition Strategy:** The SCAMP Manportable SEP acquisition strategy upgrades the Current 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.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | MIT Lincoln Labs - Lexington, MA | 20144 | 1721 | 2Q | 2165 | 2Q | 750 | 2Q | Continue | 24780 | Continue |
| b . Other Contracts | Various | Various | 3048 | 252 | | 266 | 2Q | 266 | | 0 | 3832 | 0 |
| c . Govt Eng Support | MIPR | Various | 2789 | 75 | 2Q | 1341 | 2Q | 604 | 2Q | Continue | 4809 | Continue |
| d . Major Contract | SS/CPIF | Rockwell Collins - Cedar Rapids, IA | 14118 | 11204 | 2Q | 17216 | 2Q | 6222 | 2Q | Continue | 48760 | 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 | 13252 | | 20988 | | 7842 | | Continue | 82739 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 87 | 2Q | 769 | 2Q | 533 | 2Q | Continue | 3633 | Continue |
| c . Government Support | Various | Various | 0 | 0 | | 0 | 2Q | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2657 | 87 | | 769 | | 533 | | Continue | 4046 | 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 | MIT Lincoln Labs Lexington, MA | 1525 | 0 | | 0 | | 0 | | 0 | 1525 | 0 |
| b . DT&E | Various | Various | 397 | 0 | 2Q | 0 | 2Q | 143 | 2Q | Continue | 540 | Continue |
| c . Major Contracts | SS/CPIF | Rockwell Collins Cedar Rapids, IA | 0 | 605 | 2Q | 2956 | 2Q | 159 | 2Q | Continue | 3720 | Continue |
| d . LL DT&E | MIPR | MIT Lincoln Labs Lexington, MA | 2056 | 0 | | 0 | 2Q | 0 | | 0 | 2056 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 605 | | 2956 | | 302 | | Continue | 7841 | 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 | 100 | 2Q | 1511 | 2Q | 1065 | 2Q | Continue | 6568 | Continue |
| b . Support Contracts | Various | Various | 1021 | 58 | 2Q | 692 | 2Q | 479 | 2Q | Continue | 2250 | Continue |
| c . SBIR/STTR | | | 0 | 0 | | 800 | | 0 | | 0 | 800 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4913 | 158 | | 3003 | | 1544 | | Continue | 9618 | Continue |
| Project Total Cost: | | | 52205 | 14102 | | 27716 | | 10221 | | Continue | 104244 | Continue |

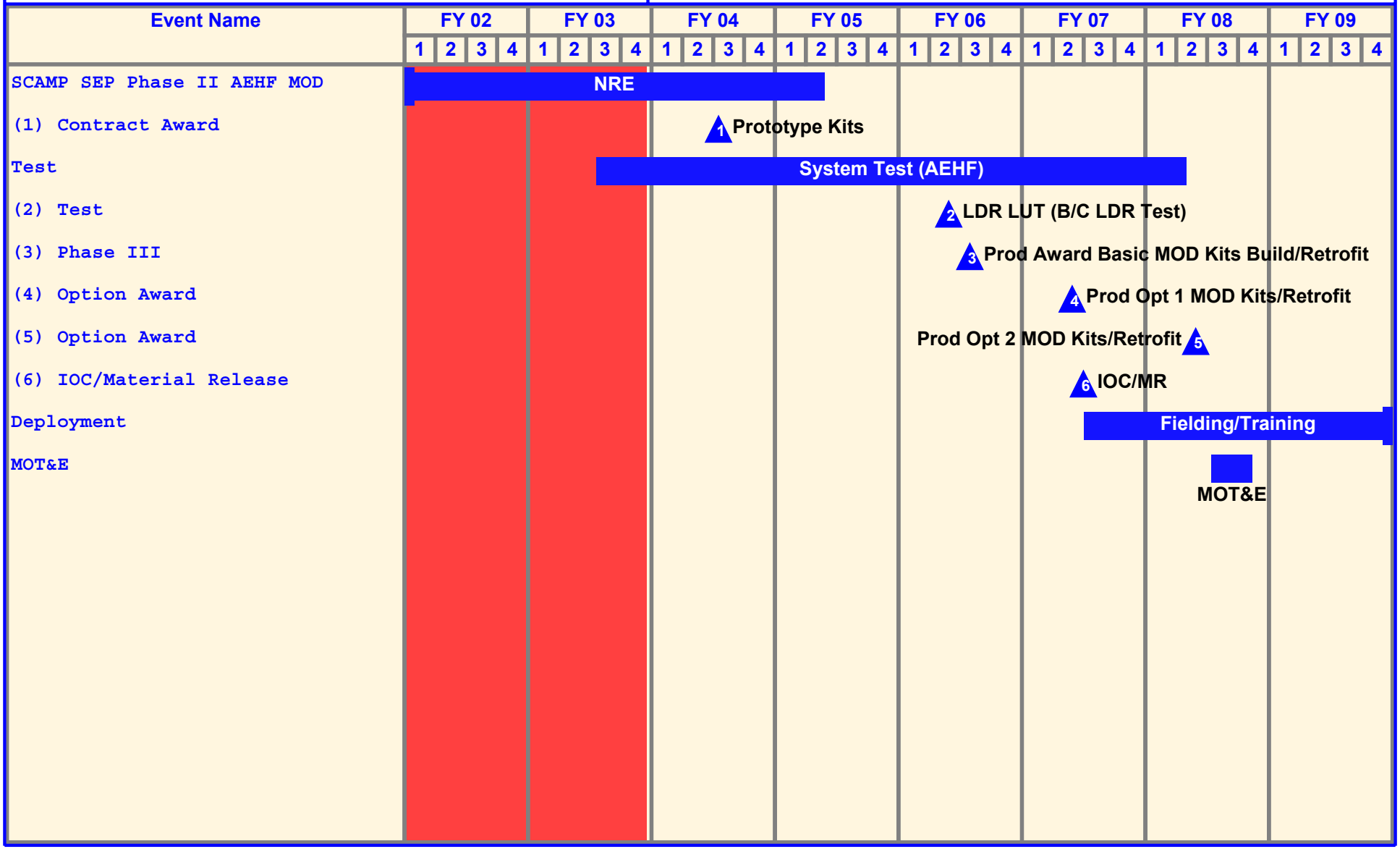
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603856A - SCAMP Block II**

PROJECT
**389**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603856A - SCAMP Block II** | **389** |

| **Schedule Detail** | 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 | | | |
| Procure Prototype Kits - AEHF | | 3Q | | | | | |
| Limited User Test - Backward Compatible LDR Mode | | | | 2Q | | | |
| Complete Retrofit Prototype Kits - AEHF | | | | 2Q | | | |
| Award Production Contract (Basic and Options) | | | | 3Q | 2Q | 2Q | |
| Field Retrofit Kits from Production Contract | | | | | 3-4Q | 3-4Q | 1-4Q |
| Conduct Multi Service Operational Test & Evaluation (MOT&E) | | | | | | 3-4Q | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603869A - Meads Concepts - Dem/Val** | **01B** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 249444 | 264527 | 268721 | 275545 | 314089 | 300998 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** 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 Missile Defense (AMD) system in the 21st century. MEADS will offer a significant improvement in surveillance, target tracking, integrated fire control and target engagement, 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 (CMs) and other air-breathing threats such as unmanned combat aerial vehicles (UCAVs) 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 Shorter Range Air Defense Systems (SHORAD) systems, such as, SLAMRAAM in the maneuver areas 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 with modularly-configurable battle elements.

The MEADS program is currently executing a thirty-two and half month Risk Reduction Effort (RRE) phase which is scheduled to end in March 2004. The primary objectives of RRE are to develop program cost and schedule consensus, to mature critical technologies, and prepare 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 begin in FY2004 using a Capabilities Based Acquisition and Incremental Acquisition Approach. The D&D Phase will be executed under an International Memorandum of Understanding (MOU) between the participating nations.

A critical void remains in maneuver force defense against the current and future AMD threat of short and medium range TBMs, CMs, 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, manpower requirements and program risk 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 Future Transition Path of the Army Transformation Campaign Plan (TCP).

The FY05 budget postures the Army to move forward with a combined PAC-3/MEADS program based on a favorable Milestone B decision 3QFY04.

The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and PATRIOT systems. The combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items. This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

* On January 23, 2004, The OUSD(C) submitted to the Congressional Committees a prior approval reprogramming request to fund Patriot Modifications needed to address Operation Iraqi Freedom Lessons Learned. The reprogramming includes $17.7 million for development efforts and $24.0 million for procurement. The $24.0 million is not reflected in the column above.

| **Accomplishments/Planned Program** | 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 management budgets to expand the MEADS Risk Reduction Effort (RRE) contract and to award the Design and Development (D&D) Phase contract to design, develop, build, test and evaluate the MEADS System. | 0 | 160664 | 130546 |
| Implement program integration efforts that will examine Department of Defense (DOD) Joint Vision and Army Transformation Future 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 with appropriate planning of MEADS manpower, training, human factors, safety issues, cost reduction initiatives, and protection of U.S. background technology. | 0 | 48000 | 43030 |
| Continue funding for government agencies and support contracts to provide technical analysis and tools in specialty areas of lethality, BM/C4I and system simulations, composite tracker capability, U.S. background technology, as well as support of conducting independent evaluations of contractor trades and analysis. Includes efforts to support U.S. unique requirements for MEADS. | 0 | 20398 | 28800 |
| Continue MEADS program management, support and salaries for both the national and international program offices. | 0 | 6000 | 7100 |
| Continued single canister and engage on remote development. Includes efforts to support Missile Segment Enhancement. | 0 | 7400 | 55051 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 6982 | 0 |
| Totals | 0 | 249444 | 264527 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 276259 | 267270 |
| Current Budget (FY 2005 PB) | 0 | 249444 | 264527 |
| Total Adjustments | 0 | -26815 | -2743 |
| Congressional program reductions | | -26372 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | -443 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -2743 |

In FY03, the MEADS program was funded by the Missile Defense Agency (MDA).

FY04 funds were decremented $24.000 million by Congress for PATRIOT-MEADS consolidation efficiencies, $2.372 million for undistribued Congressional reductions and $.443 million was realigned to higher Army priorities.
FY05 funds were realigned ($2.743) million to a higher Army priority.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| PAC-3, PE 0604865A | 0 | 156827 | 64178 | 21415 | 29386 | 19809 | 0 | 0 | 291615 |

**D. Acquisition Strategy:** The MEADS program was approved by the Defense Acquisition Executive (DAE) in an August 2000 Acquisition 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 reducing 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 29 July 03 DAB IPR endorsed pursuit of Joint Requirements Oversight Council (JROC) approval of the MEADS requirement and directed further refinement of cost and acquisition strategy development. The Army Requirements Oversight Council (AROC) met on 06 August 2003 and approved the MEADS International Common Operating Requirements (ICOR). The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and PATRIOT systems. The combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items. This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 71000 | 2Q | 0 | | Continue | 71000 | 0 |
| b . Design and Development | TBD | NAMEADSMA, Huntsville, AL | 0 | 0 | | 92226 | 3Q | 128646 | 2Q | Continue | 220872 | 0 |
| c . Missile Segment Enhancement | SS-CPIF | LMFC, Dallas, TX | 0 | 0 | | 7400 | 2-3Q | 55051 | 2-3Q | 0 | 62451 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 170626 | | 183697 | | Continue | 354323 | 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 | | 1420 | 2Q | 1900 | 2Q | Continue | 3320 | 0 |
| b . Program Integration | LOE | Various, Huntsville, AL. | 0 | 0 | | 48000 | 2Q | 41030 | 2-3Q | Continue | 89030 | 0 |
| c . U.S. Contracts | Various | Various, Huntsville, AL | 0 | 0 | | 3015 | 2Q | 3300 | 2Q | Continue | 6315 | 0 |
| d . U.S. OGAs | MIPR | Various, Huntsville, AL. | 0 | 0 | | 11146 | 2Q | 18000 | 2-3Q | Continue | 29146 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Systems Engineering | LOE | MRDEC, Huntsville, AL. | 0 | 0 | | 4037 | 2Q | 5000 | 2Q | Continue | 9037 | 0 |
| f . US Only Security | LOE | Lockheed Martin, Syracuse, NY., Dallas, TX. & Orlando, FL. | 0 | 0 | | 2200 | 3Q | 2500 | 3Q | Continue | 4700 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 69818 | | 71730 | | Continue | 141548 | 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 | 3Q | 2000 | 2Q | Continue | 5000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 3000 | | 2000 | | Continue | 5000 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 6000 | 2-3Q | 7100 | 2-3Q | 0 | 13100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 6000 | | 7100 | | 0 | 13100 | 0 |
| Project Total Cost: | | | 0 | 0 | | 249444 | | 264527 | | Continue | 513971 | 0 |

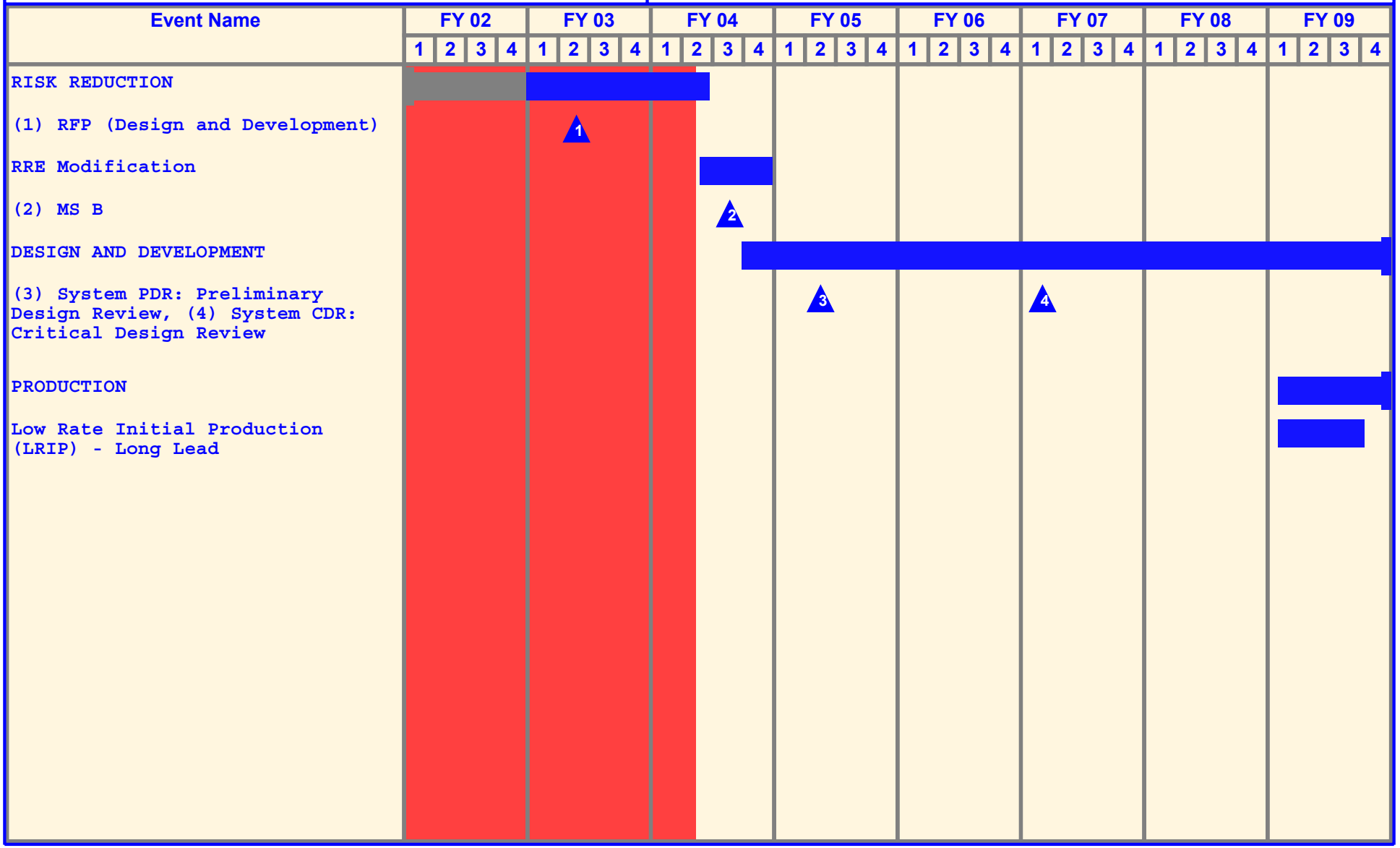
# Schedule Profile (R4 Exhibit)

February 2004

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

PE NUMBER AND TITLE
**0603869A - Meads Concepts - Dem/Val**

PROJECT
**01B**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **4 - Advanced Component Development and Prototypes** | **0603869A - Meads Concepts - Dem/Val** | **01B** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Demonstrate MEADS Functionality | | 2Q | | | | | |
| Program Review | | 2Q | | | | | |
| Milestone B | | 3Q | | | | | |
| 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 (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604201A - AIRCRAFT AVIONICS** | **C97** |

| COST (In Thousands) | FY 2003 Actual | 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 | 35971 | 47155 | 68857 | 59571 | 38651 | 54234 | 55684 | 0 | 449649 |

**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.

The Joint Tactical Radio System (JTRS) aircraft installation is the transformational system that will provide Army Aviation the required interoperability capability for Future Force and Joint Force operations. The JTRS is a DoD directed replacement for all legacy radio systems. The JTRS provides the foundation for achieving network centric warfare operations across the radio frequency spectrum providing digital information exchange for situational awareness, both vertically and horizontally, between Joint Warfighting elements, while enabling connectivity to civil and national authorities in support of Homeland Defense. The JTRS will provide an internal capability through an open systems architecture approach in compliance with the Joint Technical Architecture which improves system performance and provides a growth capability for technology insertion at a minimal cost and effort. These RDT&E funds are required to design, develop, integrate, and qualify (Air Worthiness Release) the aircraft installation kits (A Kits) to use the JTRS in Army rotary wing aircraft. The installed JTRS will provide the AH-64D, CH-47F, UH/HH-60M, and Special Operations Aircraft (SOA) with the critically needed interoperability capability to support the War fighter.

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 CH-47F and UH/HH-60M.

The Joint Precision Approach and Landing System (JPALS) is a precision approach and landing system providing joint operational cabability for U.S. forces assigned to conventional and special operations missions including those operating from fixed base, ship, tactical, and austere environments. This effort evaluates technical approaches for incorporating JPALS into Army aircraft while considering aircraft envionment, electrical power, system space, weight, antenna placement, and electromagnetic compatibility without nullifying low observable capability requirements; also procures fixed base and tactical Local Differential Global Positioning System (LDGPS) ground stations. JPALS supports research efforts in the Architecture and Requirements Definition phase of the modified acquisition life cycle approved by the Defense Acquisition Executive in September of 1998.

All of these systems support the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

Beginning in FY05 funds from PE 0305114A (711) - JPALS have been combined with this PE.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Complete effort to integrate IDM/FBCB2-Air software into the UH/HH-60M (IDM) | 2685 | 0 | 0 |
| Complete Program Management Support (IDM) | 126 | 0 | 0 |
| Complete Common Cockpit effort. (IDM) | 215 | 0 | 0 |
| Continue development of JTRS A-Kit and begin system testing for AH-64D, CH-47F, and UH-60M/Q (JTRS) | 14761 | 32660 | 47587 |
| Continue Systems Engineering and Logistics efforts (JTRS) | 4908 | 5377 | 6900 |
| Continue Program Management support for the JTRS A-Kit development (JTRS) | 1368 | 2364 | 2301 |
| Continue Integrated Communication, Navigation, and Identification Avionics (ICNIA) compliance to JTRS requirements (JTRS) | 10500 | 1100 | 4000 |
| Continue antenna effort (JTRS). | 225 | 3215 | 3000 |
| Continue Test and Evaluation Support(JTRS) | 133 | 1068 | 3176 |
| Develop Airborne Separation Video System (ASVS) | 1050 | 0 | 0 |
| Provide system engineering, logistics, programmatic, and technical documentation for JPALS development effort and execute joint Army/Navy/Air Force effort to develop a JPALS capable Embedded GPS Inertial (EGI) receiver. (JPALS) | 0 | 0 | 1798 |
| Program Management Support (JPALS) | 0 | 0 | 95 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 1371 | 0 |
| Totals | 35971 | 47155 | 68857 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604201A - AIRCRAFT AVIONICS** | **C97** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 39559 | 64650 | 44685 |
| Current Budget (FY 2005 PB) | 35971 | 47155 | 68857 |
| Total Adjustments | -3588 | -17495 | 24172 |
| Congressional program reductions | | -17448 | |
| Congressional rescissions | -454 | | |
| Congressional increases | 1050 | | |
| Reprogrammings | -3066 | -47 | |
| SBIR/STTR Transfer | -1118 | | |
| Adjustments to Budget Years | | | 24172 |

Program Change Summary Explanation:
FY05 funds for JPALS have been combined with this PE ($1,903); and funds realigned for JTRS from procurement to RDTE(+$22,269).

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| Aircraft Avionics SSN AA0700 | 90876 | 74052 | 49091 | 59381 | 124493 | 145269 | 136268 | Continue | Continue |
| Joint Tactical Radio System SSN AA0702 (JTRS) | 0 | 1892 | 0 | 0 | 0 | 0 | 0 | 0 | 1892 |
| JTRS Ground Domain Integration PE 654805/615 (JTRS) | 60659 | 202148 | 101770 | 61578 | 41322 | 14616 | 2674 | 0 | 575440 |
| Army Data Distribution System (Data Radio) SSN BU1400 (JTRS) | 72811 | 52384 | 35611 | 33954 | 1706 | 10234 | 2325 | Continue | Continue |

| C. Other Program Funding Summary (continued) | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | | |
|---|---|---|---|---|---|---|---|---|---|
| JPALS RDTE (FY 04 & Prior) PE 030511A | 934 | 945 | 0 | 0 | 0 | 0 | 0 | 0 | 1879 |

**D. Acquisition Strategy:** This project is comprised of multiple systems:
1)JTRS - Initial JTRS A-Kit hardware/software development, installation and integration will be procured via host platform vendor. Full production contracts may be competitively awarded dependent on schedule.
2)IDM - The nonrecurring engineering and software development to integrate the IDM/FBCB2-Air into the CH-47F and UH/HH-60M will be performed by Boeing/Rockwell and Sikorsky/Rockwell. The B-kits will be procured and installed during production.
3)JPALS- The JPALS acquisition strategy is to complete the current risk reduction and Technology Development (TD) Phase followed by the development of a JPALS LDGPS specification. Using this specification, a JPALS prototype LDGPS ground station will be tested in both benign and jamming environments prior to MS B in Dec 04. JPALS functionality will be integrated on a GPS card which will be inserted into the Army's existing avionics. JPALS integration will be synchronized with the integration of M Code into Army platforms in the FY 2010 timeframe.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Development of IDM into CH47-F SIL (IDM) | MIPR | Aviation & Missile Command (AMCOM), Redstone Arsenal, AL | 644 | 0 | | 0 | | 0 | | 0 | 644 | 644 |
| b . CH-47F wiring design (IDM) | MIPR | AMCOM, AL | 1126 | 0 | | 0 | | 0 | | 0 | 1126 | 1126 |
| c . UH/HH-60M Integration of B-Kit (IDM) | MIPR | AMCOM,AL | 5500 | 2685 | 1-4Q | 0 | | 0 | | 0 | 8185 | 8185 |
| d . Common Cockpit effort. (IDM) | MIPR | AMCOM, AL | 0 | 215 | 3Q | 0 | | 0 | | 0 | 215 | 215 |
| e . CH-47F Test Plans, software development and B-Kit Integration in support of the IDM | MIPR | Various | 12732 | 0 | | 0 | | 0 | | 0 | 12732 | 12732 |
| f . RAH-66 Software Development (IDM) | MIPR | Naval Research Lab, Wash, D.C. | 2000 | 0 | | 0 | | 0 | | 0 | 2000 | 2000 |
| g . A-Kit AH-64D , CH-47F, and UH/HH-60M/Q R&D Contracts (JTRS) (Design Analysis & SDD) | CPFF | Boeing, AZ, PA, & CA:Rockwell/Collins, IA:Sikorsky, CT;ARINC, MD;ICI, VA | 6056 | 14761 | 1-3Q | 34031 | 1-3Q | 47587 | 1-3Q | Continue | 102435 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . Systems Engineering, Logistics Efforts (JTRS) | MIPR | Various | 2850 | 4908 | 1-3Q | 5377 | 1-3Q | 6900 | 1-3Q | Continue | Continue | Continue |
| i . ATC Software Development (IDM) | MIPR | AMCOM, AL | 319 | 0 | | 0 | | 0 | | 0 | 319 | 319 |
| j . Airborne Separation Video System (ASVS) | MIPR | Naval Air Warfare Center, Pax River, MD | 0 | 1050 | | 0 | 2Q | 0 | | 0 | 1050 | 1050 |
| | | | | | | | | | | | | |
| Subtotal: | | | 31227 | 23619 | | 39408 | | 54487 | | 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 . ICNIA compliance to JTRS requirements (JTRS) | CPFF | TRW, California | 2866 | 10500 | 1-3Q | 1100 | 1-3Q | 4000 | 1-3Q | 2400 | 20866 | 20866 |
| b . Integrated Digital Environment for JTRS | CPFF | ARINC, New Jersey | 175 | 0 | | 0 | | 0 | | 0 | 175 | 175 |
| c . Antenna Effort (JTRS) | CPFF | JVYS, Alabama; Lear Siegler Services, Inc., Maryland | 0 | 225 | 1-3Q | 3215 | 1-3Q | 3000 | 1-3Q | 3662 | 10102 | 10102 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| 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 . System engineering, logistics, and technical support(JPALS) | MIPR | Various | 0 | 0 | | 0 | | 1798 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3041 | 10725 | | 4315 | | 8798 | | 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 . Information Assurance (IA) Certification (IDM) | MIPR | AMCOM,CECOM | 701 | 0 | | 0 | | 0 | | 0 | 701 | 701 |
| b . Test and Evaluation (JTRS) | MIPR | Various | 0 | 133 | 4Q | 1068 | 1-3Q | 3176 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 701 | 133 | | 1068 | | 3176 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**

| 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 Spt (Digitization) | MIPR | AMCOM, AL | 215 | 0 | | 0 | | 0 | | 0 | 215 | 215 |
| b . PM Spt (IDM) | MIPR/In-house | AMCOM, AL/PM AME, AL | 1119 | 126 | 1-4Q | 0 | | 0 | | 0 | 1245 | 1245 |
| c . PM Spt (JTRS) | MIPR/In-house | AMCOM, AL/PM AME, AL | 815 | 1368 | 1-4Q | 2364 | 1-4Q | 2301 | 1-4Q | Continue | Continue | Continue |
| d . PM Spt (JPALS) | MIPR/In-house | AMCOM, AL/PM AME, AL | 0 | 0 | | 0 | | 95 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2149 | 1494 | | 2364 | | 2396 | | Continue | Continue | Continue |
| Project Total Cost: | | | 37118 | 35971 | | 47155 | | 68857 | | Continue | Continue | Continue |

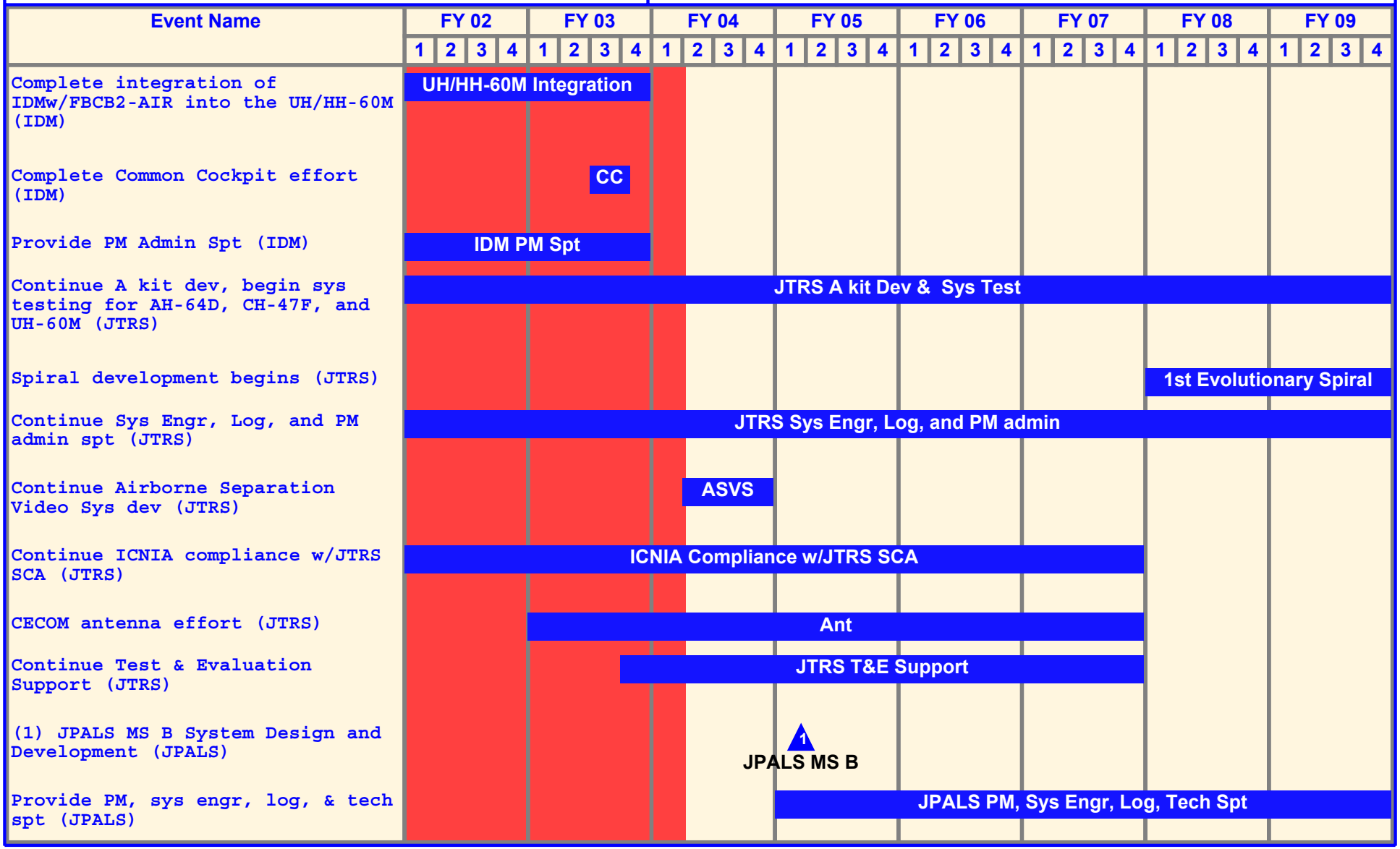
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604201A - AIRCRAFT AVIONICS**

PROJECT
**C97**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604201A - AIRCRAFT AVIONICS** | **C97** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Complete effort to Integrate IDM/FBCB2-Air software into the UH/HH-60M (IDM) | 1-4Q | | | | | | |
| Complete Common Cockpit Effort (IDM) | 3Q | | | | | | |
| Develop JTRS A-Kit and begin system testing for AH-64D, CH-47F, and UH-60M/Q (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue System Engineering and Logistics Efforts (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Airborne Separation Video System (ASVS) | | 2-4Q | | | | | |
| Continue ICNIA Compliance to JTRS Requirements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Continue Antenna Effort (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Continue Test and Evaluation Support (JTRS) | 4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Complete Program Management support for IDM (IDM) | 1-4Q | | | | | | |
| Continue Program Managment support for the JTRS A-Kit development (JTRS) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| PM Support (JPALS) | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue system engineering, logistics and technical support (JPALS) | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604220A - Armed, Deployable OH-58D** | **538** |

| COST (In Thousands) | FY 2003 Actual | 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 | 1759 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4034 |

**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 selected fuselage tests. There has been additional quasi-static testing performed on the Main Rotor Blades (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). To complete the dynamic portion of the LFT&E, a Ground Test Vehicle (GTV) has been assembled. The GTV consists of fully functional but non-flightworthy airframe and engine parts. No radios, or working mission equipment were installed. Only essential flight instruments have been installed for safe ground operations. Plywood mock-ups or empty black boxes were used in place of mission equipment. The MMS static testing was conducted with the MMS attached to a maintenance sight stand. The dynamic testing will be conducted with the MMS installed on the GTV operating at 100% rotor revolutions per minute and under aircraft engine power. The quasi-static MRB testing was conducted while various loads were applied to the blade specimens. Each test shot defined in the IEP/TDP varied from caliber 7.62 mm to 30 mm. All testing has occurred on a controlled range at Aberdeen Proving Grounds, MD.

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Development/Operational Test & Analysis 2 Main rotor blades, 1 GTV Assembly | 619 | 0 | 0 |
| Developmental/Operational Test & Analysis | 265 | 0 | 0 |
| Battle Damage Assessment | 12 | 0 | 0 |
| Mock-up Cost | 321 | 0 | 0 |
| Mock-up Cost (1 GTV) | 542 | 0 | 0 |
| Totals | 1759 | 0 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604220A - Armed, Deployable OH-58D** | **538** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 1790 | 0 | 0 |
| Current Budget (FY 2005 PB) | 1759 | 0 | 0 |
| Total Adjustments | -31 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | -21 | | |
| Congressional increases | | | |
| Reprogrammings | 42 | | |
| SBIR/STTR Transfer | -52 | | |
| Adjustments to Budget Years | | | |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| APA AZ2200 - Kiowa Warrior | 41257 | 50871 | 33776 | 22403 | 42083 | 20702 | 15281 | 24900 | 251273 |

**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.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 865613 | 1068029 | 1229664 | 1061217 | 791287 | 554222 | 436490 | Continuing | Continuing |
| 2LT | COMANCHE OPER TEST | 138 | 1231 | 9065 | 26499 | 10679 | 18515 | 50874 | Continuing | Continuing |
| 327 | COMANCHE | 812051 | 1024886 | 1177480 | 1003372 | 758447 | 519418 | 371700 | Continuing | Continuing |
| C72 | T-800 ENGINE ED (LH) | 53424 | 41912 | 43119 | 31346 | 22161 | 16289 | 13916 | 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 Future 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. The Comanche system supports the Future transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 874018 | 1079257 | 1181563 |
| Current Budget (FY 2005 PB) | 865613 | 1068029 | 1229664 |
| Total Adjustments | -8405 | -11228 | 48101 |
| Congressional program reductions | | -10150 | |
| Congressional rescissions | -10917 | | |
| Congressional increases | | | |
| Reprogrammings | 27490 | -1078 | |
| SBIR/STTR Transfer | -24978 | | |
| Adjustments to Budget Years | | | 48101 |

FY 05: Increase provided for Wideband Network Waveform.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **2LT** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 138 | 1231 | 9065 | 26499 | 10679 | 18515 | 50874 | 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. The Comanche system supports the Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Prepare for and Conduct the Limited User Test (LUT) | 83 | 1053 | 6916 |
| Accreditation of the crew station simulators (Comanche Portable Cockpits) in support of FDTE II; conduct FDTE II. | 43 | 92 | 1099 |
| Conduct Electro-optical Sensor System (EOSS) User Survey | 12 | 50 | 1050 |
| Small Business Innovative Research/Small Business Technology Programs | 0 | 36 | 0 |
| Totals | 138 | 1231 | 9065 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **2LT** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 8000 | 0 | 11967 | 289139 | 964681 | 1529131 | 2030478 | Continuing | Continuing |

**C. Acquisition Strategy:** This project is for test and evaluation effort to support Comanche acquisition.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Test and Evaluation Command, Alexandria, VA | 227 | 138 | 1-3Q | 1231 | 1-3Q | 9065 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 227 | 138 | | 1231 | | 9065 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 1231 | | 9065 | | Continue | Continue | Continue |

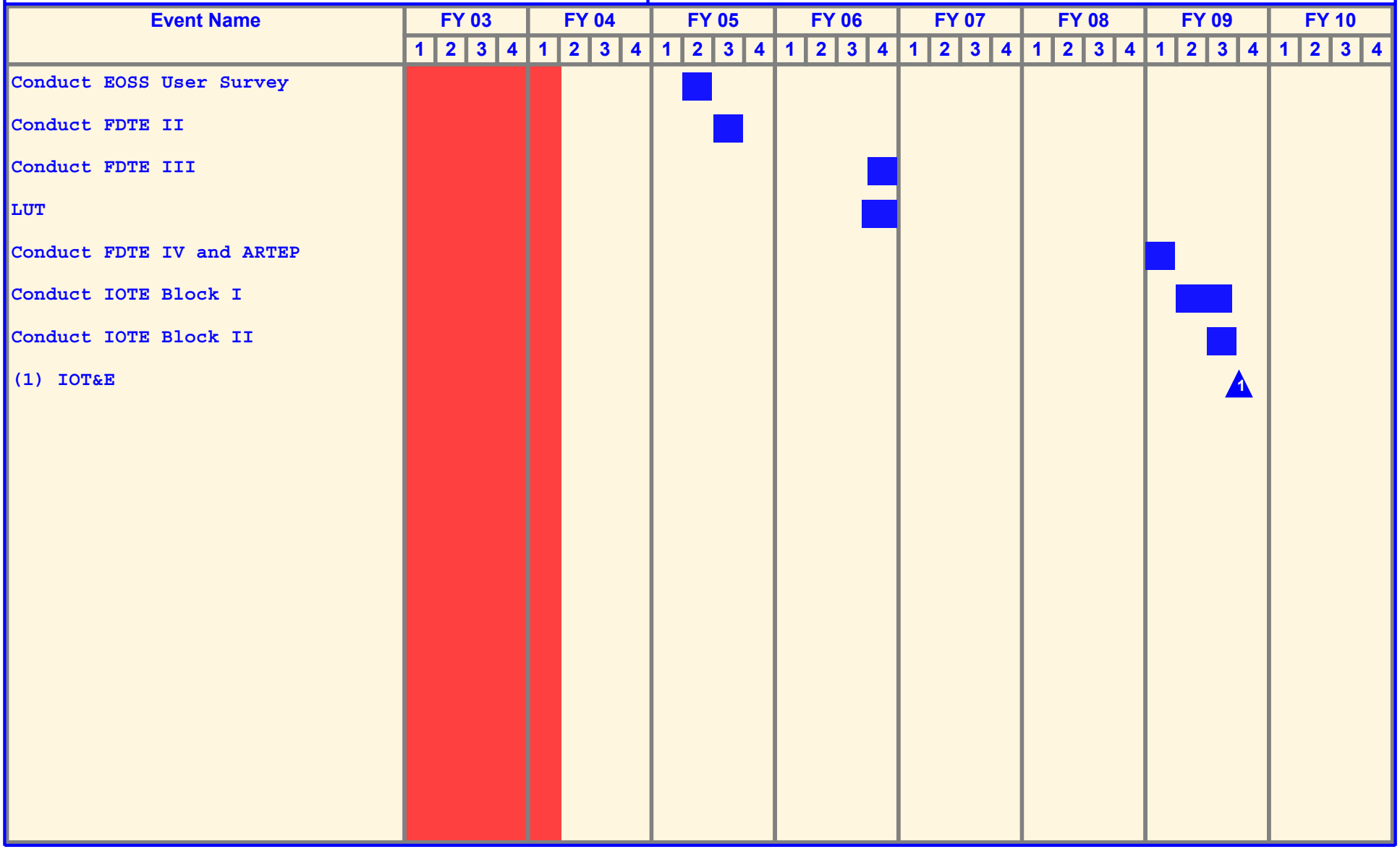
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

PROJECT
**2LT**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **2LT** |

| **Schedule Detail** | 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 | 1Q | | | | |
| Prepare for LUT | 4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| Prepare for FDTE II | 4Q | 1-4Q | 1-2Q | | | | |
| Prepare for EOSS User Survey | 4Q | 1-4Q | 1Q | | | | |
| Conduct EOSS User Survey | | | 2Q | | | | |
| Conduct FDTE II | | | 3Q | | | | |
| Prepare for FDTE III | 4Q | 1-4Q | 1-4Q | 1-3Q | | | |
| Conduct FDTE III | | | | 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 | 1-3Q |
| Conduct IOTE Block II | | | | | | | 3Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **327** |

| COST (In Thousands) | FY 2003 Actual | 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 | 812051 | 1024886 | 1177480 | 1003372 | 758447 | 519418 | 371700 | 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. The Comanche system supports the Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue Mission Equipment Package (MEP) development | 278845 | 290149 | 442657 |
| Continue Engineering, Manufacturing, and Development (EMD) | 356659 | 423626 | 430132 |
| Continue component development testing and prototype flight test program | 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 | 64068 | 107800 | 108678 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 29577 | 0 |
| Totals | 812051 | 1024886 | 1177480 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 8000 | 0 | 11967 | 289139 | 964681 | 1529131 | 2030478 | Continuing | Continuing |

**C. Acquisition Strategy:** Continue work with current contractor leading to production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . DAAH23-00-C-A001 | C/CPAF | Boeing Sikorsky, PA | 1346935 | 751193 | 1-2Q | 955110 | 1-2Q | 1091020 | 1-2Q | Continue | Continue | Continue |
| b . DAAJ09-91-C-A004 | C/CPIF/AF | Boeing Sikorsky, PA | 2927066 | 0 | | 0 | | 0 | | 0 | 2927066 | 2927066 |
| c . DAAJ09-87-D-A022 | C/FFP | Veridian, VA | 75041 | 8347 | 1-2Q | 7706 | 1-2Q | 8323 | 1-2Q | Continue | Continue | Continue |
| d . Other Contracts | C/FFP | Multiple | 12683 | 7177 | 1-3Q | 2800 | 1-3Q | 5000 | 1-3Q | Continue | Continue | Continue |
| e . Completed Contracts | | | 370288 | 0 | | 0 | | 0 | | 0 | 370288 | 370288 |
| f . Gov't Agencies | MIPR | Multiple | 4491 | 333 | 1-4Q | 0 | 1-4Q | 5000 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4736504 | 767050 | | 965616 | | 1109343 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 7991 | 1-3Q | 12302 | 1-3Q | 13787 | 1-3Q | Continue | Continue | Continue |
| b . Completed Contracts | C/FFP | | 15556 | 0 | | 0 | | 0 | | 0 | 15556 | 15556 |
| c . Gov't Agencies | MIPR | Multiple | 143580 | 13147 | 1-4Q | 17864 | 1-4Q | 20793 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 214907 | 21138 | | 30166 | | 34580 | | 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 | 6425 | 1-4Q | 9760 | 1-4Q | 11305 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 31504 | 6425 | | 9760 | | 11305 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604223A - COMANCHE**

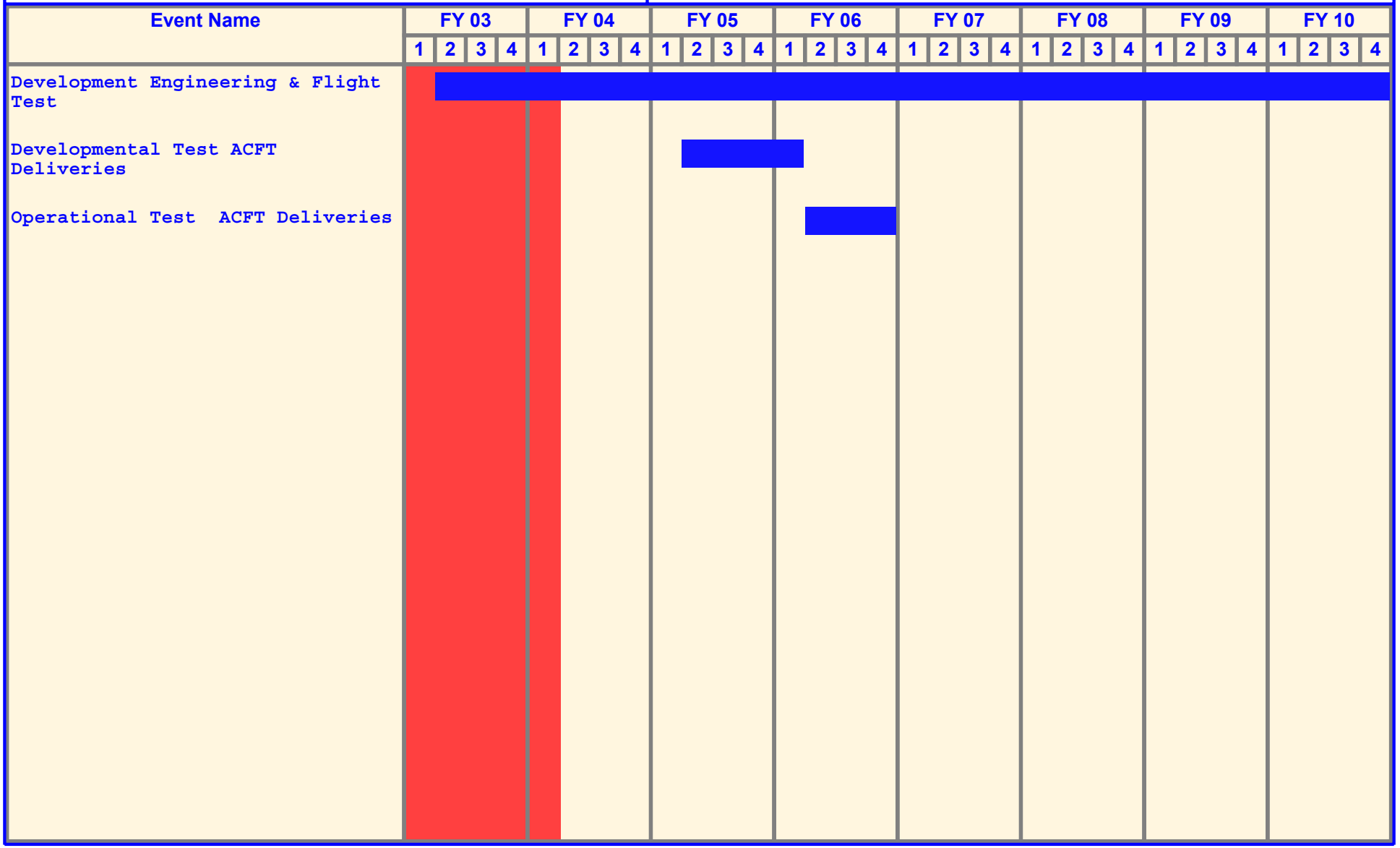
PROJECT
**327**

| 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 | 3665 | 1-3Q | 3369 | 1-3Q | 4137 | 1-3Q | Continue | Continue | Continue |
| b . PMO/Gov't Agencies | MIPR | Multiple | 34305 | 13773 | 1-4Q | 15975 | 1-4Q | 18115 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 44663 | 17438 | | 19344 | | 22252 | | Continue | Continue | Continue |
| Project Total Cost: | | | 5027578 | 812051 | | 1024886 | | 1177480 | | Continue | Continue | Continue |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604223A - COMANCHE | 327 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **327** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Continue MEP development (ref Development Eng & Flt Test) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue EMD Program engineering development (ref Development Eng & Flt Test) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue development testing and prototype flight test program (ref Development Eng & Flt Test) | 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 | | | |
| Delivery of EMD aircraft (ref DT/OT ACFT Deliveries) | | | 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 | 1-3Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **C72** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 53424 | 41912 | 43119 | 31346 | 22161 | 16289 | 13916 | 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 has been increased by 100 horsepower, over that which was provided by the T800-LHT-801. T800-LHT-802 engine with engine block upgrades is scheduled for Aircraft Block II EMD integration activities and all subsequent Comanche production aircraft. The Comanche system supports the Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue engine contractor development/qualification testing and air vehicle support. | 41192 | 25439 | 32832 |
| 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. | 12232 | 15255 | 10287 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 1218 | 0 |
| Totals | 53424 | 41912 | 43119 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| A08300 Comanche | 8000 | 0 | 11967 | 289139 | 964681 | 1529131 | 2030478 | Continuing | Continuing |

**C. Acquisition Strategy:** Continue work with current contractor leading to military qualification, production, and supporting commercialization.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 349353 | 0 | | 0 | | 0 | | 0 | 349353 | 349353 |
| b . DAAH23-02-C-0122 | C/CPFF | LHTEC, Indiana | 35284 | 52308 | 1-2Q | 41012 | 1-2Q | 36899 | 1-2Q | Continue | Continue | Continue |
| c . Other Contract | C/CPFF | LHTEC, Indiana | 0 | 0 | | 774 | 2-3Q | 6048 | 1-2Q | Continue | Continue | Continue |
| d . DAAJ09-85-C-B017 | C/CPFF | LHTEC, Indiana | 276821 | 0 | | 0 | | 0 | | 0 | 276821 | 276821 |
| e . DAAJ09-93-C-0518 | C/CPFF | LHTEC, Indiana | 460 | 0 | | 0 | | 0 | | 0 | 460 | 460 |
| f . DAAJ09-85-C-B019 | C/FFP | AVCO/PW, Connecticut | 128526 | 0 | | 0 | | 0 | | 0 | 128526 | 128526 |
| g . Gov't Agencies | MIPR | Multiple | 14434 | 114 | 1-3Q | 126 | 1-3Q | 172 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 804878 | 52422 | | 41912 | | 43119 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 123 | 1-2Q | 0 | | 0 | | 0 | 731 | 1081 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3510 | 123 | | 0 | | 0 | | 0 | 3633 | 3983 |

| 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 | 879 | 1-3Q | 0 | | 0 | | 0 | 27482 | 27482 |
| b . Contracts | C/CPFF | | 2 | 0 | | 0 | | 0 | | 0 | 2 | 2 |
| | | | | | | | | | | | | |
| Subtotal: | | | 26605 | 879 | | 0 | | 0 | | 0 | 27484 | 27484 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |

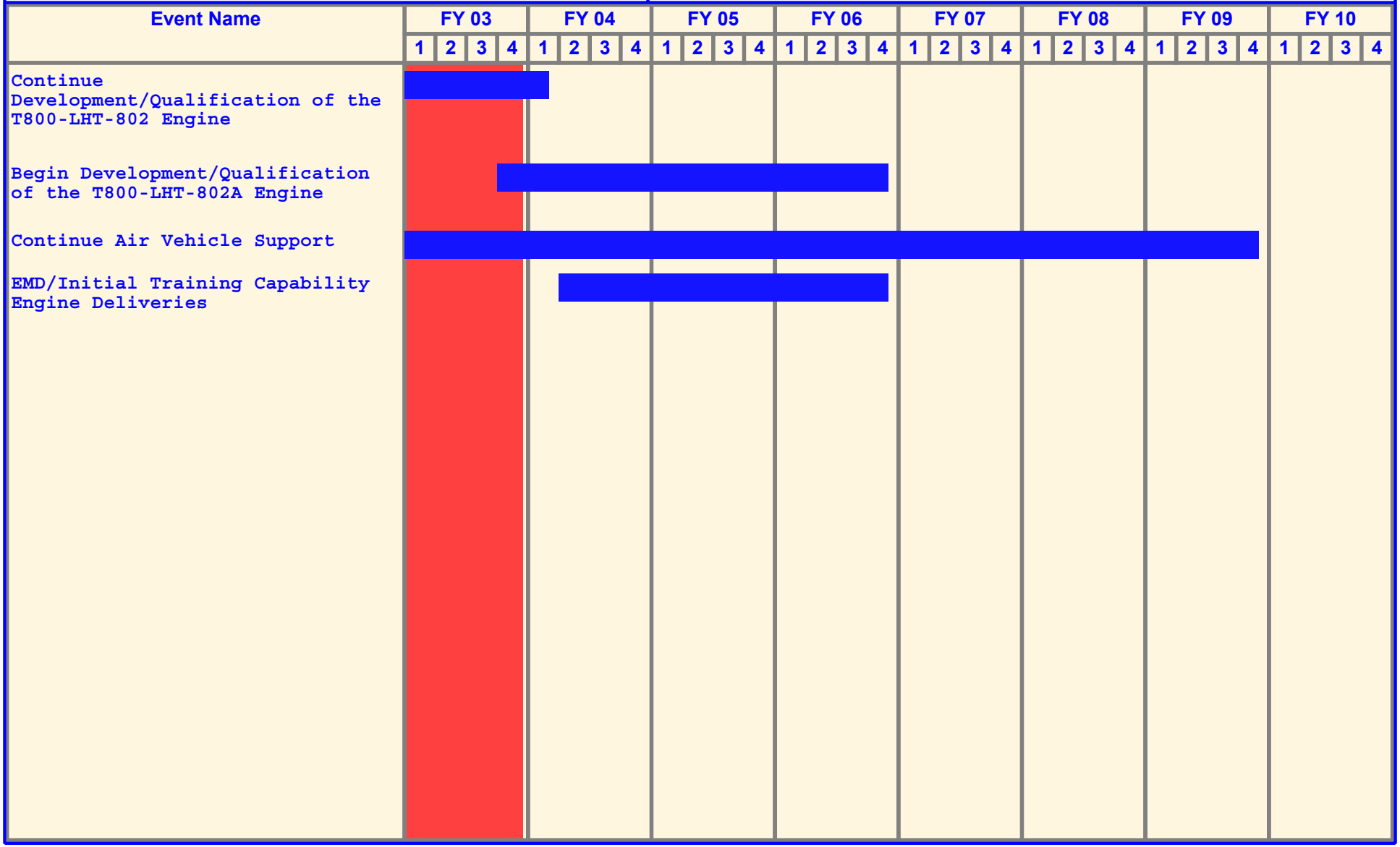
Remarks: None

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 834993 | 53424 | | 41912 | | 43119 | | Continue | Continue | Continue |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604223A - COMANCHE | C72 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604223A - COMANCHE** | **C72** |

| **Schedule Detail** | 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 | 1Q | | | | | |
| Begin Development/Qualification of the T800-LHT-802A Engine | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| Continue Air Vehicle Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| EMD/Initial Training Capability Engine Deliveries | | 2-4Q | 1-4Q | 1-4Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 38291 | 32870 | 16879 | 32315 | 35477 | 32085 | 29018 | Continuing | Continuing |
| 665 | A/C SURV EQUIP DEV | 9301 | 0 | 4391 | 7360 | 3963 | 3961 | 3960 | Continuing | Continuing |
| L12 | SIGNALS WARFARE DEVELOPMENT (TIARA) | 25550 | 22035 | 2528 | 11394 | 14213 | 10330 | 10725 | Continuing | Continuing |
| L15 | ARAT-TSS | 2105 | 2236 | 1360 | 1258 | 1255 | 1800 | 1863 | Continuing | Continuing |
| L16 | TROJAN DEVELOPMENT | 1335 | 1460 | 1463 | 1556 | 1556 | 1576 | 1608 | Continuing | Continuing |
| L20 | ATIRCM/CMWS | 0 | 7139 | 7137 | 10747 | 14490 | 14418 | 10862 | Continuing | Continuing |

**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 Current-to-Future transition path of the Transformation Campaign Path (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 38309 | 33214 | 19526 |
| Current Budget (FY 2005 PB) | 38291 | 32870 | 16879 |
| Total Adjustments | -18 | -344 | -2647 |
| Congressional program reductions | | -312 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -18 | -32 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -2647 |

FY 2005 funds realigned to support higher Army priorities.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **665** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 665 A/C SURV EQUIP DEV | 9301 | 0 | 4391 | 7360 | 3963 | 3961 | 3960 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The objective of the Aircraft Survivability Equipment Development project is to develop the Suite of Radio Frequency Countermeasures (SIRFC) system to identify and protect U.S. Army aircraft against multiple radio frequency weapon systems. SIRFC will increase the combat effectiveness of these aircraft by reducing or eliminating the ability of threat air defense systems to detect, hit, track, damage or destroy them.

This system supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

The FY05 funding allows the program to continue the technical insertion program.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct Advanced ASE Testing | 3300 | 0 | 0 |
| Conduct Advanced ASE Qualification Testing | 4455 | 0 | 0 |
| Conduct Technology Insertion Program | 1506 | 0 | 4291 |
| In-house and program management administration | 40 | 0 | 100 |
| Totals | 9301 | 0 | 4391 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| APA, BA 4 AZ3508 ASE | 3078 | 9452 | 4885 | 8164 | 26823 | 42554 | 28689 | 0 | 156221 |
| OSD Procurement, PE 1160444BB | 25300 | 13900 | 62309 | 46345 | 48922 | 50459 | 60600 | 0 | 307835 |

**C. Acquisition Strategy:** SIRFC is managed by the Technology Applications Program Office (TAPO), Ft. Eustis, VA, which is part of the Special Operations Command (SOCOM). TAPO is currently integrating and testing the SIRFC system on the MH-47 and MH-60 aircraft platforms and will begin full rate production of SIRFC when all flight testing is completed. This will allow the Army CH-47 and UH-60 platforms to leverage off of TAPO's integration efforts on the MH series and to take advantage of an established production line. The Army will also be able to use TAPO's production contract when it is ready to procure systems for its aircraft platforms. A technology insertion program will also be implemented to replace old technology and reduce obsolescence problems with the goal of reducing unit costs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**665**

| 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 . SIRFC EMD Contract | C/CPAF | ITT Corp, Clifton, NJ | 101021 | 0 | | 0 | | 0 | | 0 | 101021 | 128941 |
| b . EMD Support | MIPR | CECOM, Ft. Monmouth, NJ | 420 | 0 | | 0 | | 0 | | 0 | 420 | 420 |
| c . Initiate Technology Insertion/P3I | C/CPFF | ITT Corp, Clifton, NJ | 233 | 0 | | 0 | | 0 | | 0 | 233 | 233 |
| d . Conduct PEP/Technology Insertion/Obsolescence | C/CPFF | ITT Corp, Clifton, NJ | 9000 | 0 | | 0 | | 0 | | 0 | 9000 | 9000 |
| e . PEP/Technology Insertion/Obsolescence Support | MIPR | CECOM, Ft. Monmouth, NJ | 7 | 0 | | 0 | | 0 | | 0 | 7 | 7 |
| f . Continue Technology Insertion Program/P3I | C/CPFF | ITT Corp, Clifton, NJ | 3226 | 0 | | 0 | | 0 | | 0 | 3226 | 8734 |
| g . Technology Insertion/P3I Support | MIPR | Multiple | 3390 | 0 | | 0 | | 0 | | 0 | 3390 | 487 |
| h . Technology Insertion | SS/CPFF | ITT Corp, Clifton, NJ | 0 | 1356 | 2Q | 0 | | 3170 | 2Q | 0 | 4526 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 117297 | 1356 | | 0 | | 3170 | | 0 | 121823 | 147822 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**665**

| 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 . Threat Anlaysis | SS/CPFF | TASC Inc., Reading, MA | 0 | 150 | 2Q | 0 | | 0 | | 0 | 150 | 0 |
| b . Engineering Support | MIPR | AMRDEC, Redstone Arsenal, AL | 0 | 0 | | 0 | | 736 | 1-2Q | 0 | 736 | 0 |
| c . Engineering Support | MIPR | CECOM, Ft. Monmouth, NJ | 0 | 0 | | 0 | | 385 | 1-2Q | 0 | 385 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 150 | | 0 | | 1121 | | 0 | 1271 | 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 . Conduct Development Testing/Limited User Testing | C/CPFF | Research Analysis & Maintenance Inc., El Paso, TX | 1993 | 0 | | 0 | | 0 | | 0 | 1993 | 1993 |
| b . Conduct Development Testing/Limited User Testing | C/CPFF | Boeing, Mesa, AZ | 1645 | 0 | | 0 | | 0 | | 0 | 1645 | 1645 |
| c . Conduct Development Testing/Limited User Testing | MIPR | Multiple | 2311 | 0 | | 0 | | 0 | | 0 | 2311 | 2311 |
| d . Conduct Contract Flight Testing | C/CPFF | Research Analysis & Maintenance Inc., El Paso, TX | 1070 | 0 | | 0 | | 0 | | 0 | 1070 | 1070 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**665**

| 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 . Conduct Contractor Flight Testing | MIPR | Multiple | 920 | 0 | | 0 | | 0 | | 0 | 920 | 920 |
| f . Conduct Benefield Anechoic Facility Testing | MIPR | Air Force Flight Test Center, Edwards AFB, CA | 633 | 0 | | 0 | | 0 | | 0 | 633 | 633 |
| g . Radio Frequency Simulation System Test | C/CPFF | Simulation Technologies Inc., Huntsville, AL | 562 | 0 | | 0 | | 0 | | 0 | 562 | 562 |
| h . Conduct Software Integration Lab Testing | MIPR | CECOM, Ft. Monmouth, NJ | 100 | 0 | | 0 | | 0 | | 0 | 100 | 100 |
| i . Ground/Flight Testing & Logistics Support | MIPR | Air Force Flight Test Center, Las Vegas, NV | 0 | 1626 | 3Q | 0 | | 0 | | 0 | 1626 | 2643 |
| j . Antenna Measurements & Pattern Testing | MIPR | Naval Air Warfare Center, Patuxent River, MD | 0 | 652 | 3Q | 0 | | 0 | | 0 | 652 | 924 |
| k . Noise Floor & EMC Testing | MIPR | Naval Air Warfare Center, Patuxent River, MD | 0 | 531 | 3Q | 0 | | 0 | | 0 | 531 | 0 |
| l . Performance Testing & Evaluation | MIPR | Naval Air Warfare Center, Patuxent River, MD | 0 | 292 | 3Q | 0 | | 0 | | 0 | 292 | 0 |
| m . Advanced ASE Qualification Testing & Support | SS/CPFF | ITT Corp, Clifton, NJ | 0 | 4455 | 3Q | 0 | | 0 | | 0 | 4455 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**665**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n . Airworthiness Release | MIPR | AMRDEC, Redstone Arsenal, AL | 0 | 99 | 4Q | 0 | | 0 | | 0 | 99 | 0 |
| o . Logistics Support | MIPR | AMCOM, Redstone Arsenal, AL | 0 | 50 | 4Q | 0 | | 0 | | 0 | 50 | 0 |
| p . Engineering Support | MIPR | CECOM, Ft. Monmouth, NJ | 0 | 50 | 4Q | 0 | | 0 | | 0 | 50 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9234 | 7755 | | 0 | | 0 | | 0 | 16989 | 12801 |

| 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 | Various | 657 | 40 | 1-4Q | 0 | | 100 | 1Q | 0 | 797 | 1193 |
| | | | | | | | | | | | | |
| Subtotal: | | | 657 | 40 | | 0 | | 100 | | 0 | 797 | 1193 |
| Project Total Cost: | | | 127188 | 9301 | | 0 | | 4391 | | 0 | 140880 | 161816 |

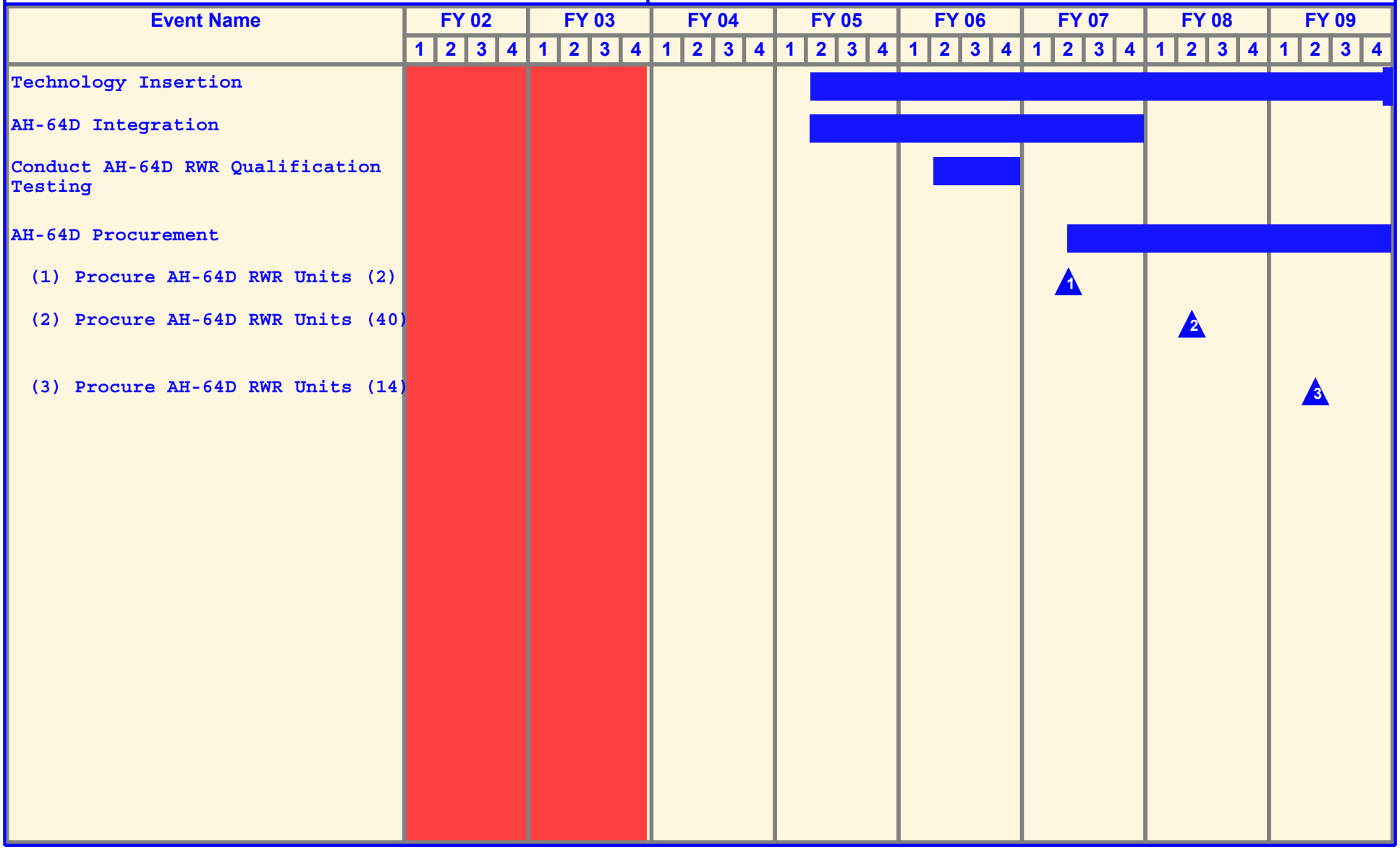
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**665**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **665** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct Technology Insertion | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Conduct AH-64D Integration | | | 2-4Q | 1-4Q | 1-4Q | | |
| Conduct Radar Warning Receiver Qualification Testing - AH-64D | | | | 2-4Q | | | |
| Procure AH-64D Radar Warning Receiver Units | | | | | 2Q | 2Q | 2Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 25550 | 22035 | 2528 | 11394 | 14213 | 10330 | 10725 | Continuing | Continuing |

**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 COMINT/EW 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. 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). 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 and 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 and 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 block approach: Block I - Electronic Support (ES) (COMINT), Block II - Electronic Attack (EA), Block III - Modern Signals (The Agile Signals, TAS). Planned enhancements to Block III capabilities will include COMINT and EA capabilities. Prophet Block II/III functionality will be resident within FCS. That technology and Tactics, Techniques and Procedures (TTPs) will be leveraged.

FY05 Funds support Prophet Block II/III transition into production, as well as initiation of P3I enhancement effort planning.

The Prophet System supports the Current to Future Force transition path of the Army Transformation Campaign Plan (TCP).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Prepared for and Conduct Mileston B IPR for Prophet Block II/III Contract | 100 | 0 | 0 |
| Prophet Block II/III System Development and Demonstration (SDD) | 22180 | 15910 | 1039 |
| Prepare for and conduct Prophet Block II/III DT/IOT&E | 1857 | 5900 | 489 |
| Prepare for Prophet P3I Enhancements | 450 | 0 | 600 |
| Prepare for Prophet Block II/III MS C | 0 | 225 | 400 |
| Conduct of Leviathon Studies and Prototype Development | 963 | 0 | 0 |
| Totals | 25550 | 22035 | 2528 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| BZ7326 Prophet Ground (TIARA) | 49041 | 10794 | 17692 | 13173 | 25077 | 30014 | 26779 | Continuing | Continuing |
| PE 030885G Defense Cryptological Program for PROPHET | 1694 | 3774 | 4015 | 4253 | 3039 | 6910 | 6905 | Continuing | Continuing |
| BZ9751 Special Purpose Systems (TIARA) (Prophet Only) | 0 | 489 | 486 | 488 | 3675 | 2257 | 2339 | 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 -(TAS)) efforts were combined into a single SDD phase following an evolutionary acquisition process. Block II/III SDD was competetively awarded in 2QFY03. Production and P3I efforts will utilize competitive contracting to the maximum extent possible.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | General Dynamics Decision Systems, Scottsdale, AZ | 0 | 17171 | 2Q | 13209 | 1Q | 1039 | 1Q | 0 | 31419 | 0 |
| b . Prophet Block II/III GFE | FFP | Titan Systems | 0 | 1768 | 2-3Q | 0 | | 0 | | Continue | 1768 | 0 |
| c . Prophet Modeling and Simulation | C/T&M | CACI, Eatontown, NJ | 0 | 1000 | 3Q | 0 | | 0 | | 0 | 1000 | 0 |
| d . Leviathon Development and Prototyping | CPFF | Sensytech, Newington, VA | 0 | 963 | 2Q | 0 | | 0 | | 0 | 963 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 20902 | | 13209 | | 1039 | | Continue | 35150 | 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 . Matrix Support | MIPR | CECOM, Fort Monmouth NJ | 4015 | 1641 | 1-2Q | 1251 | 1Q | 381 | 1Q | Continue | 7288 | 0 |
| b . Contractor Eng & Spt | FFP | Sytex Group, Eatontown, NJ | 403 | 200 | 1-2Q | 105 | 1Q | 50 | 1Q | Continue | 758 | 0 |
| c . Contractor Eng & Spt | FFP | CACI, Eatontown, NJ | 675 | 750 | 1-2Q | 1000 | 1Q | 300 | 1Q | Continue | 2725 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d . TSM/NSTO | MIPR | TSM, Ft Huachuaca, AZ | 250 | 250 | 1-2Q | 103 | 2Q | 50 | 1Q | 0 | 653 | 250 |
| e . Contractor Eng & Spt | C/T&M | Dynetics, Huntsville, AL | 0 | 0 | | 60 | 2Q | 0 | | 0 | 60 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5343 | 2841 | | 2519 | | 781 | | Continue | 11484 | 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 | 5350 | 1-3Q | 0 | | 0 | 6428 | 0 |
| b . II/III Follow-On Test | MIPR | EPG/AEC | 0 | 0 | | 0 | | 458 | 1Q | 0 | 458 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1078 | | 5350 | | 458 | | 0 | 6886 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 957 | 1-4Q | 250 | 1-4Q | Continue | 5754 | 0 |
| b . Program Support | MIPR | ASPO, Alexandria, VA | 0 | 204 | 2Q | 0 | | 0 | | 0 | 204 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4022 | 729 | | 957 | | 250 | | Continue | 5958 | 0 |
| Project Total Cost: | | | 9365 | 25550 | | 22035 | | 2528 | | Continue | 59478 | 250 |

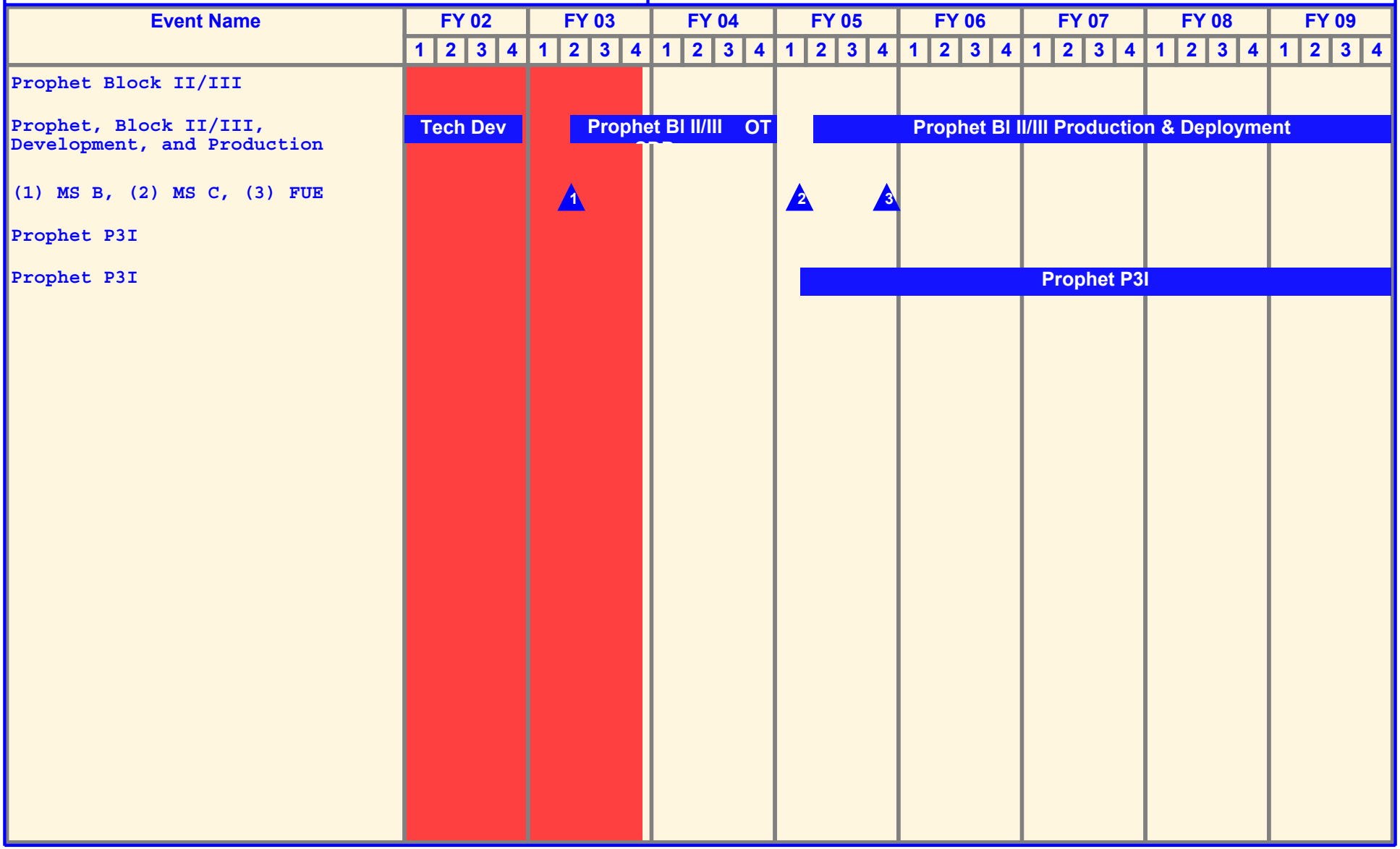
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L12**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L12** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct SSEB for Prophet Block II/III SDD Contract | 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 | | 2-4Q | | | | | |
| Milestone C for Prophet Block II/III | | | 1Q | | | | |
| Prophet Bl II/III P3I | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| First Unit Equipped, Prophet Block II/III | | | 4Q | | | | |
| Conduct Leviathon Studies and Develop Prototypes | 2-4Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L15** |

| COST (In Thousands) | FY 2003 Actual | 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 | 2105 | 2236 | 1360 | 1258 | 1255 | 1800 | 1863 | 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 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. | 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. | 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. | 0 | 350 | 288 |

| **Accomplishments/Planned Program (continued)** | 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. | 500 | 624 | 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. | 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. | 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. | 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. | 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. | 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. | 555 | 362 | 276 |
| Totals | 2105 | 2236 | 1360 |

**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(R3)

**February 2004**

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 | 649 | 1-4Q | 527 | 1-4Q | 538 | 1-4Q | Continue | 2264 | Continue |
| b . Travel | TBD | TBD/Various sites | 49 | 45 | 1-4Q | 60 | | 60 | | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 599 | 694 | | 587 | | 598 | | 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(R3)

**February 2004**

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 | 2105 | | 2236 | | 1360 | | Continue | Continue | Continue |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L16** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 1335 | 1460 | 1463 | 1556 | 1556 | 1576 | 1608 | 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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct operational testing and evaluation of previously developed special processing devices and software with enhanced signal processing algorithms. | 429 | 0 | 0 |
| Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. | 0 | 500 | 500 |
| Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. | 500 | 0 | 0 |
| Develop prototype QRC Receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGA technologies. | 0 | 560 | 713 |
| Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups (RRGs). | 406 | 400 | 250 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies. | 0 | 0 | 0 |
| Totals | 1335 | 1460 | 1463 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA BA0331 Trojan | 4873 | 5052 | 5186 | 5261 | 5365 | 0 | 0 | 0 | 30594 |

**C. Acquisition Strategy:** This Acquisition Strategy for the TROJAN Classic XXI System supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extend possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements. The funding for production and fielding of these capabilities are funded under TROJAN BA0331.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | CERDEC I2WD Ft Monmouth | 106 | 206 | | 760 | 2-3Q | 863 | 2-3Q | Continue | 1935 | Continue |
| b . Develop DF Capabilities for TROJAN RRG | MIPR | CERDEC I2WD Ft Monmouth | 150 | 100 | 2Q | 0 | 2-3Q | 0 | 1-2Q | Continue | 250 | Continue |
| c . Investigate Compression /processing technologies | MIPR | CERDEC I2WD Ft Monmouth | 638 | 100 | | 200 | | 100 | | Continue | 1038 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 894 | 406 | | 960 | | 963 | | Continue | 3223 | 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(R3)

**February 2004**

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 | | 1460 | | 1463 | | Continue | Continue | Continue |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L20** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 0 | 7139 | 7137 | 10747 | 14490 | 14418 | 10862 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The ATIRCM 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, 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. This system supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

FY05 funding supports continued P3I efforts for multi-band laser/laser miniaturization.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Contractor Built-in-Test (BIT)/Reliability Demo Testing (RDT) | 0 | 1623 | 0 |
| RDT support | 0 | 720 | 0 |
| Developmental Testing/Operational Testing | 0 | 1623 | 0 |
| User Test support | 0 | 2884 | 0 |
| Operational testing | 0 | 0 | 3537 |
| Multi-band laser/Laser miniaturization | 0 | 0 | 3373 |
| Project Management | 0 | 221 | 227 |
| Congressional Adjustments | 0 | 68 | 0 |
| Totals | 0 | 7139 | 7137 |

| B. Other Program Funding Summary | 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 | 0 | 75151 | 79226 | 100786 | 107853 | 148786 | 139734 | 2551068 | 3206169 |
| OSD Procurement, PE 1160444BB | 21474 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21474 |

**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 March 02. An Army Systems Acquisition Review Council (ASARC) resulted in a milestone C Low Rate Initial Production (LRIP) decision in November 2003, approving the program's entry into LRIP. The LRIP procurement acquisition strategy will be sole source, fixed price procurement. Funding supports an acquisition strategy of buying CMWS separately from ATIRCM, while installing A-kits on all modernized aircraft. FY05 RDTE funds support ATIRCM/CMWS P3I efforts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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-Reliability Demonstration Testing | C/CPFF | Nashua, NH | 40412 | 0 | | 1623 | 3Q | 0 | | 0 | 42035 | 42050 |
| 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 . BAE Systems ATIRCM Multi-band laser & Miniaturization | SS/CPFF | Nashua, NH | 0 | 0 | | 0 | | 3373 | 2Q | 0 | 3373 | 3373 |
| | | | | | | | | | | | | |
| Subtotal: | | | 82651 | 0 | | 1623 | | 3373 | | 0 | 87647 | 235872 |

Remarks: FY99 & Prior funding in Project 665

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 0 | | 0 | | 0 | 3055 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13209 | 0 | | 0 | | 0 | | 0 | 13209 | 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 | | 1623 | 2-4Q | 0 | | 0 | 7548 | 0 |
| b . Operational Test Center User test | MIPR | Various | 6732 | 0 | | 2884 | 1-4Q | 3537 | 1-4Q | 0 | 13153 | 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(R3)

**February 2004**

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 | | 720 | 3-4Q | 0 | | 0 | 1120 | 0 |
| h . Other | MIPR | | 105 | 0 | | 0 | | 0 | | 0 | 105 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 21688 | 0 | | 5227 | | 3537 | | 0 | 30452 | 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 | | 221 | 2Q | 227 | 1Q | 0 | 5784 | 0 |
| b . Congressional Adjustments | | | 0 | 0 | | 68 | 1Q | 0 | | 0 | 68 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5336 | 0 | | 289 | | 227 | | 0 | 5852 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L20** |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 122884 | 0 | | 7139 | | 7137 | | 0 | 137160 | 249248 |

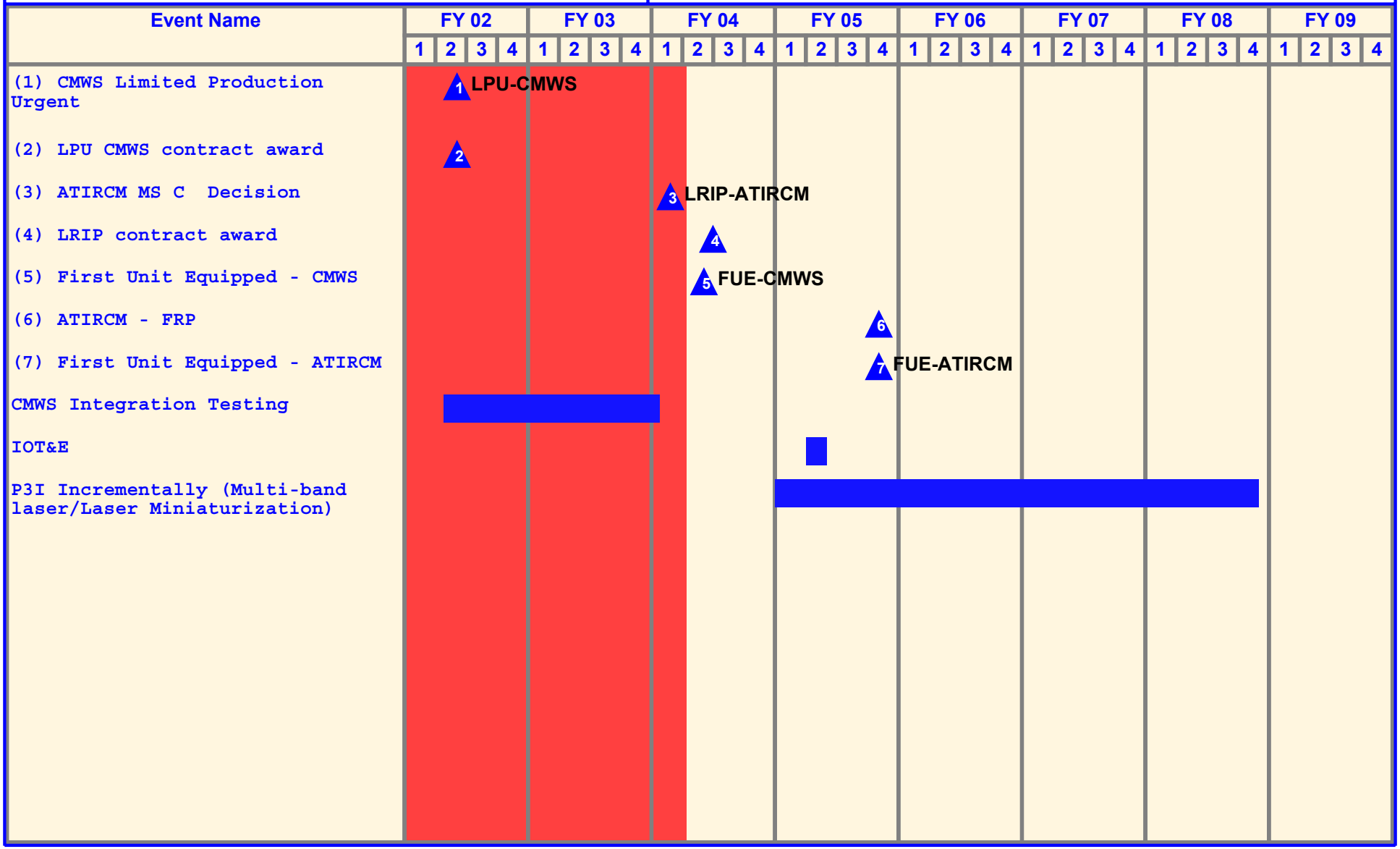
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604270A - EW DEVELOPMENT**

PROJECT
**L20**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604270A - EW DEVELOPMENT** | **L20** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CMWS Limited Production Urgent | | | | | | | |
| LPU CMWS Contract Award | | | | | | | |
| ATIRCM Milestone C Decision | | 1Q | | | | | |
| LRIP contract award | | 2Q | | | | | |
| First Unit Equipped - ATIRCM | | 2Q | | | | | |
| ATIRCM - FRP | | | 4Q | | | | |
| First Unit Equipped - ATIRCM | | | 4Q | | | | |
| CMWS Integration Testing | 1-4Q | | | | | | |
| IOTE | | | 2Q | | | | |
| P3I Incrementally 9Multi-band laser/Laser Miniaturization) | | | 1-4Q | 1-4Q | 1-4Q | 1-3Q | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 62892 | 133293 | 121400 | 71221 | 57233 | 28573 | 27073 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The mission of the Joint Tactical Radio System (JTRS) program is to provide to the Department of Defense 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. 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. A Project Agreement with Sweden is currently being staffed in Army. Discussions with Canada, Australia, France, Turkey and within other NATO countries 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, evolution and maintenance of waveform software applications, (4) development of software cryptographic algorithms and cryptographic equipment applications, and (5) testing and certification of JTRS hardware and software products and (6) JTRS network and gateway software. 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.

In FY2004 and FY2005, 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, 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 Current to Future Transition path of the Transformation Campaign Plan (TCP).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Maintain, evolve and provide configuration management of the SCA. | 1349 | 1035 | 1035 |
| 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. | 37483 | 78718 | 80771 |
| 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. | 800 | 1000 | 1000 |
| Continue hardware and software waveform certification process (SCA compliance testing) to meet program requirements. | 10396 | 9414 | 11636 |
| Manage and transition Joint Task Force WARNET. | 0 | 23000 | 11000 |
| 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. | 7709 | 9574 | 9843 |
| Continue JPO program support, including administration, program management, international cooperative efforts, legal, contracting, budget execution and cost estimating activities. | 5155 | 6679 | 6115 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 3873 | 0 |
| Totals | 62892 | 133293 | 121400 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 62921 | 134693 | 91583 |
| Current Budget (FY 2005 PB) | 62892 | 133293 | 121400 |
| Total Adjustments | -29 | -1400 | 29817 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -29 | -1400 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 29817 |

Change Summary Explanation: FY2005 funding increase for new ORD 3.2 Waveform requirements, Network Data Link (NDL) for Future Combat System (FCS) and validated personnel requirements.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0604805A C3 Systems - Eng Dev; project 615, JTRS Ground Domain Integ (Cl 1) | 60659 | 198338 | 101770 | 61578 | 41322 | 14616 | 2674 | Continue | Continue |
| OPA, ARMY, JTRS CLUSTER 1, B90100* | 0 | 0 | 121452 | 136436 | 109171 | 101150 | 177147 | Continue | Continue |
| RDTE, 0604201A Aircraft Avionics (JTRS) (Cluster 1) | 24483 | 44331 | 62964 | 55629 | 26748 | 36526 | 24130 | Continue | Continue |
| APA, JTRS A-Kit Procurement AA0702 (Cl 1) | 0 | 1892 | 0 | 19058 | 61545 | 55083 | 66189 | Continue | Continue |
| RDTE, 0604805A C3 Systems - Eng Dev; project 61A, JTRS Cluster 5 Dev | 0 | 0 | 100605 | 94522 | 75311 | 25454 | 3960 | 0 | 299852 |

**C. Other Program Funding Summary (continued)** FY 2003 FY 2004 FY 2005 FY 2006 FY 2007 FY 2008 FY 2009

**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 December 2001. The SCA is in the final stages of Commercial/International acceptance by the Object Management Group (OMG). 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 was managed and partially funded by PM Tactical Radio Communications Systems (TRCS), was 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). The current version of the JTRS ORD, version 3.2, was approved 9 April 2003. The JPO is also developing certification tools and procedures for the testing of JTRS products. The JTRS test and certification activity, the JTRS Technology Laboratory (JTeL), achieved Initial Operational Capability (IOC) 31 July 2003. Full Operational Capability is scheduled for 1 October 2004. 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 WIN-T) to acquire and field Ground, Vehicular, and Rotary Wing JTR sets.

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 (SOCOM Handheld Block 1), 3 (Maritime/Fixed Site) and 4 (Airborne). Twenty ORD waveforms are being developed using the Boeing 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 two additional awards in December 2002. Also in December 2002, a contract was awarded to General Dynamics for development of AIM crypto algorithms. The Sierra crypto algorithm contract was awarded to Harris Corporation in January 2003. Additionally, on May 29, 2003, an Acquisition Decision Memorandum designated the Army lead service for Cluster 5 for Handheld, Manpack and Embedded JTR sets.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 62455 | 1349 | 3Q | 1035 | 2Q | 1035 | 2Q | Continue | 65874 | Continue |
| b . Waveform Development; Crypto S/W; Waveform Sustainment Engineering | Various | Various | 71392 | 37483 | 1-2Q | 82591 | 1-2Q | 80771 | 1-2Q | Continue | 272237 | Continue |
| c . Certification (SCA Compliance Testing) | Various | Various | 16370 | 10396 | 1-3Q | 9414 | 1-2Q | 11636 | 1-2Q | Continue | 47816 | Continue |
| d . Technology Advancement/Problem Resolution | Various | Various | 7460 | 800 | 2Q | 1000 | 1-3Q | 1000 | 1-3Q | Continue | 10260 | Continue |
| e . JTF WARNET | Various | Various | 0 | 0 | | 23000 | 2-3Q | 11000 | 2-3Q | 0 | 34000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 157677 | 50028 | | 117040 | | 105442 | | Continue | 430187 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 20983 | 7709 | 1-2Q | 9574 | 1-2Q | 9843 | 1-2Q | Continue | 48109 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 20983 | 7709 | | 9574 | | 9843 | | Continue | 48109 | 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(R3)

**February 2004**

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 | 13838 | 5155 | 1-2Q | 6679 | 1-2Q | 6115 | 1-2Q | Continue | 31787 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 13838 | 5155 | | 6679 | | 6115 | | Continue | 31787 | Continue |
| Project Total Cost: | | | 192498 | 62892 | | 133293 | | 121400 | | Continue | 510083 | Continue |

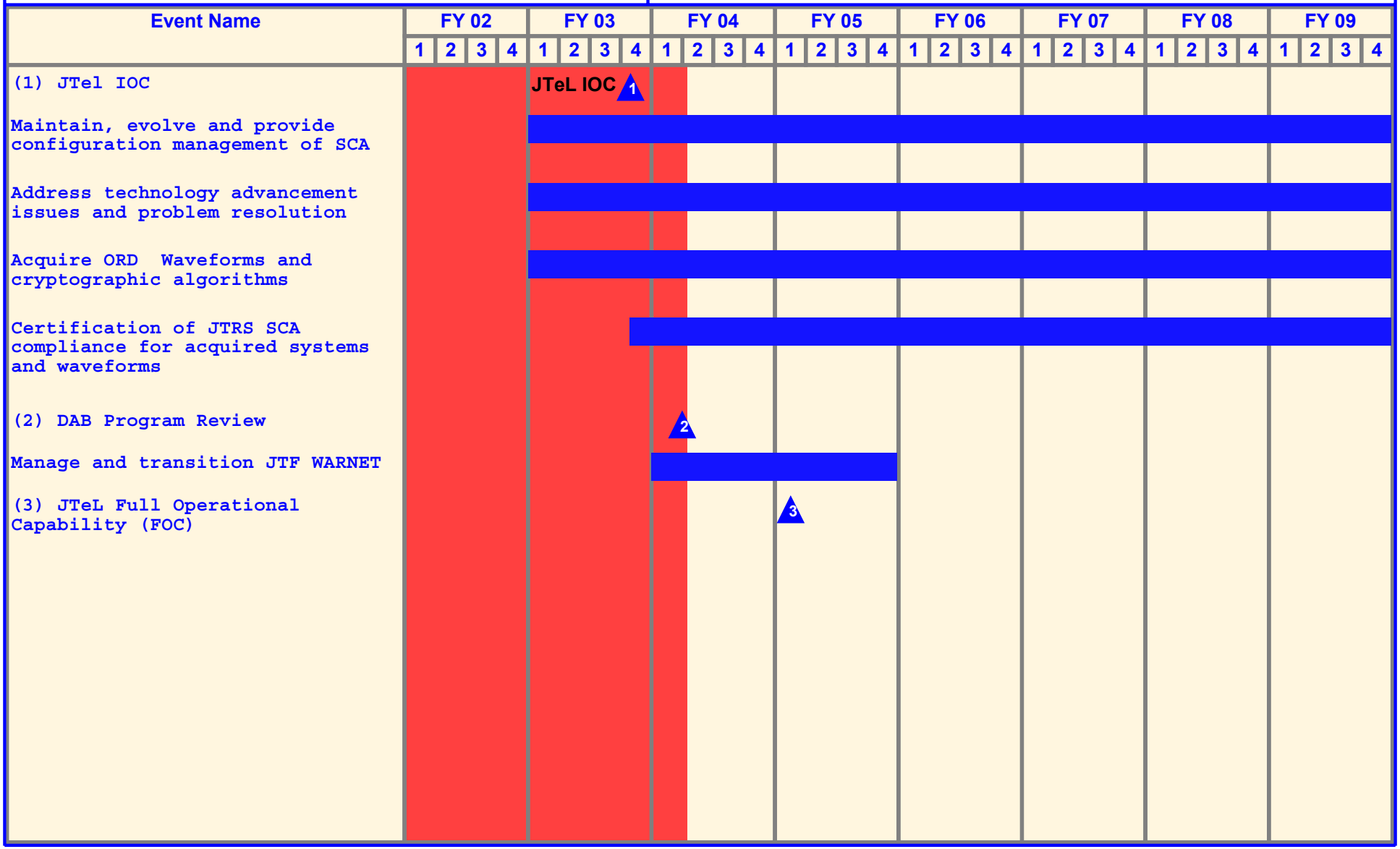
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604280A - Joint Tactical Radio System**

PROJECT
**162**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604280A - Joint Tactical Radio System** | **162** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Maintain, Evolve and Provide Configuration Management of SCA | 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 |
| Award JPO Waveform Contracts | 1Q | 3Q | 2Q | 2Q | 2Q | | |
| Acquire ORD Waveforms and Cryptographic Algorithms | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| JTRS Technology Lab (JTeL) Initial Operational Capability (IOC) | 4Q | | | | | | |
| Provide Certification of JTRS SCA Compliance for Acquired Systems and Waveforms. | 4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| DAB Program Review | | 1Q | | | | | |
| Manage and transition JTF WARNET | | 1-4Q | 1-4Q | | | | |
| JTRS Technology Lab (JTeL) Full Operational Capability (FOC) | | | 1Q | | | | |

NOTE: All milestones scheduled through 1QFY2004 have been accomplished.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 54341 | 19959 | 5346 | 8373 | 8884 | 17023 | 15401 | Continuing | Continuing |
| B19 | ASAS EVOLUTIONARY ACQ (TIARA) | 52019 | 17856 | 4094 | 7035 | 5307 | 15015 | 13330 | Continuing | Continuing |
| B41 | CI/HUMINT SOFTWARE PRODUCTS (TIARA) | 2322 | 2103 | 928 | 1015 | 3254 | 1686 | 1750 | Continuing | Continuing |
| B44 | ASAS TADSS (TIARA) | 0 | 0 | 199 | 198 | 198 | 198 | 198 | Continuing | Continuing |
| B49 | CHIMS TADSS (TIARA) | 0 | 0 | 125 | 125 | 125 | 124 | 123 | Continuing | Continuing |

**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). ACE 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 (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 Current to Future Force transition path of the Transformation Campaign Plan (TCP).

ASAS received $12.3 million in FY03 from the Defense Emergency Response Fund (DERF) for ACE software development, Foreign Area Language Conversion (FALCON) language translator.

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 54366 | 20168 | 15548 |
| Current Budget (FY 2005 PB) | 54341 | 19959 | 5346 |
| Total Adjustments | -25 | -209 | -10202 |
| Congressional program reductions | | -189 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -25 | -20 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -10202 |

Change Summary Explanation: FY 2005: Funds realigned minus ($10,202K) to higher priority requirements.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B19** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 52019 | 17856 | 4094 | 7035 | 5307 | 15015 | 13330 | 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 Current to Future Force transition path of the Transformation Campaign Plan (TCP).

$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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue SDD of ASAS Light V6, RWS V6 and Analysis Control Element (ACE) | 49422 | 0 | 0 |
| Complete ASAS Light V6 and RWS V6 Developmental Test and Continuous Evaluation | 263 | 0 | 0 |
| Conduct ACE Development and Test | 2334 | 7576 | 0 |
| Conduct SDD of Software Blocking 1(SWB1) | 0 | 8331 | 0 |
| Conduct SWB1 Continuous Evaluation | 0 | 500 | 0 |
| Conduct SDD of Software Blocking 2 (SWB2) | 0 | 1449 | 0 |
| Resolve high priority Software Anomoly Reports (SARs), Safety, and Interoperability issues and provide DII COE/NCES (Network Centric Enterprise Services) maintenance for ASAS Light and ACT-E | 0 | 0 | 2094 |
| Comply with DoD mandates | 0 | 0 | 2000 |
| Totals | 52019 | 17856 | 4094 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA (K28801) ASAS Modules | 60966 | 46538 | 15979 | 21504 | 12473 | 38590 | 43607 | Continuing | Continuing |
| Spares (BS9704) | 752 | 1031 | 3199 | 3469 | 2467 | 3074 | 2384 | Continuing | Continuing |
| RDTE (375208.D06) ASAS/DCGS-A | 0 | 1323 | 7719 | 14832 | 19792 | 9895 | 9887 | 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 anticipate fielding to begin in FY06.

- Army Software Blocking: ASAS Light synchronizes with software Block I Execution Phase.

The program emphasizes multiple evolutionary deliveries, with incremental enhancements of ASAS products, integrated test, and continuous evaluation opportunities. Plan to provide ACE Light P3I updates twice annually; 1 minor (SARs, perfomance & usability improvements); 1 major (functionality, interoperability, usability improvements; migration to Windows-based applications; enhancement of joint/coalition interoperability; and compliance with DoD mandates). 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(R3)

**February 2004**

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 | 34404 | 1Q | 2226 | 1Q | 0 | | 0 | 257728 | 0 |
| b . Subsystem Development | GSA D.O. | Electronic Warfare Associates, Huntington, WV | 9795 | 1000 | 1Q | 500 | 1Q | 0 | | 0 | 11295 | 0 |
| c . Subsystem Development | GSA D.O. | Austin Info Systems, Austin, TX | 15900 | 6053 | 1Q | 5299 | 1Q | 514 | 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 . SARs, Safety and Interop | MIPR | TBD | 0 | 0 | | 0 | | 2094 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 249071 | 42137 | | 8025 | | 2608 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 100 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 700 | 250 | | 250 | | 100 | | 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 | 1Q | 500 | 1Q | 0 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3397 | 2597 | | 4581 | | 0 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 0 | | 0 | 10172 | 0 |
| b . Contractor Spt | BPA | SYTEX, Inc. Vienna, VA | 23442 | 4500 | 1-4Q | 3250 | 1-4Q | 486 | 1-4Q | Continue | Continue | 0 |
| c . Govt In House | MIPR | PM IE, Ft. Belvoir, VA | 16447 | 1500 | 1-4Q | 1500 | 1-4Q | 900 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 48776 | 7035 | | 5000 | | 1386 | | Continue | Continue | 0 |
| Project Total Cost: | | | 301944 | 52019 | | 17856 | | 4094 | | Continue | Continue | 0 |

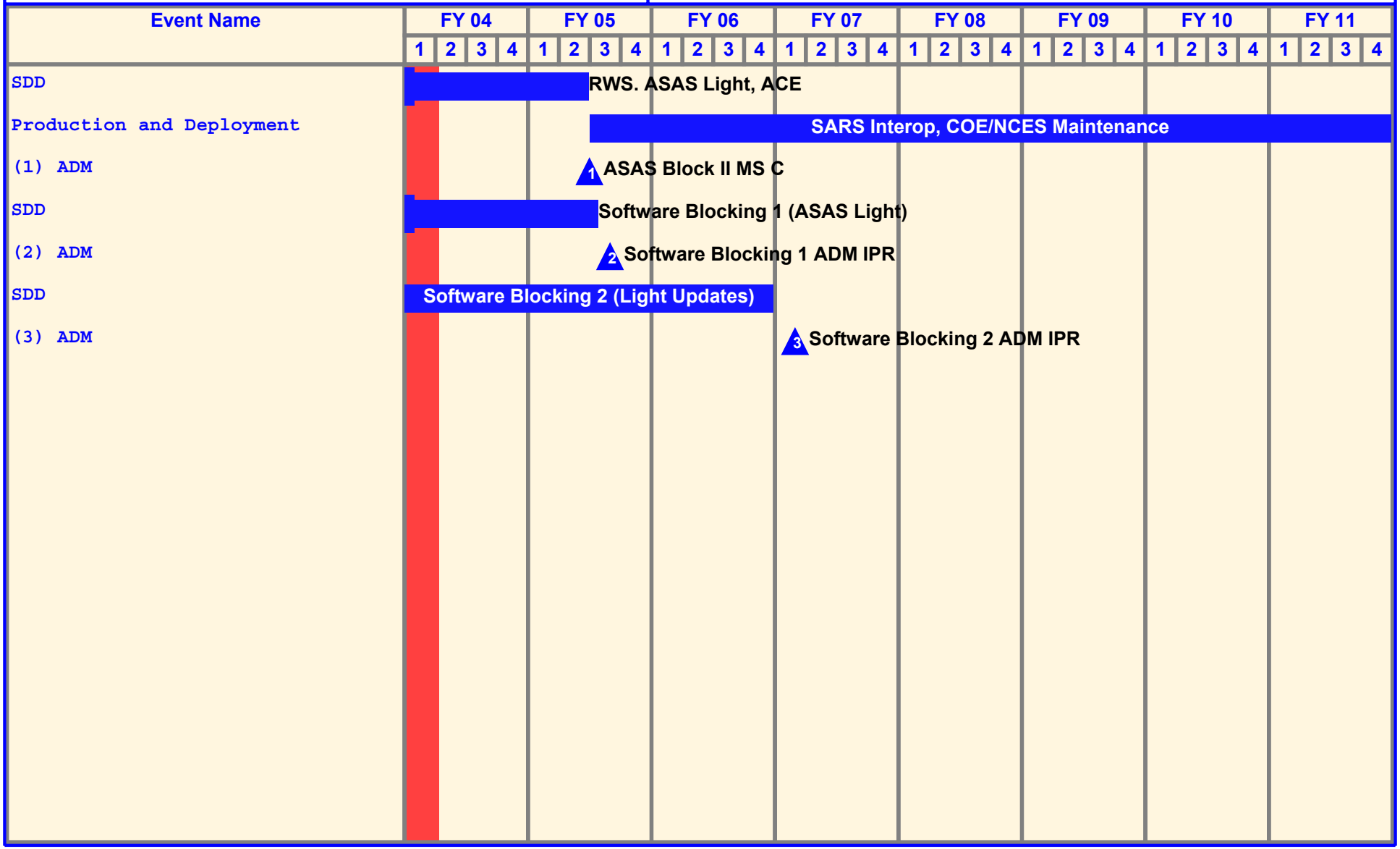
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B19**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B19** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| SDD of ASAS Light V6 and RWS V6 and ACE | 1-4Q | 1-4Q | 1-2Q | | | | |
| SDD of Software Blocking 1 (SWB1) (ASAS Light) | 1-4Q | 1-4Q | 1-2Q | | | | |
| Software Blocking 1 (SWB1) ADM IPR | | | 3Q | | | | |
| SDD of Software Blocking 2 (ASAS Light Updates) | | 1-4Q | 1-4Q | 1-4Q | | | |
| Software Blocking 2 (SWB2) ADM IPR | | | | | 1Q | | |
| High priority SARs, Safety, Interop issues and DII COE/NCES maint for ASAS Light, ACT-E and ACE | | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B41** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 2322 | 2103 | 928 | 1015 | 3254 | 1686 | 1750 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Counterintelligence/Human Intelligence (CI/HUMINT) Information Management System (CHIMS) is the Army system responsible for collection, processing, and analysis of CI/HUMINT data to satisfy tactical and strategic human intelligence requirements. CHIMS provides the automation support for Army tactical CI/HUMINT information collection, investigation, interrogation, operations, biometrics, document exploitation, and force protection. The CHIMS architecture extends from the individual agent/collector to National and Theater intelligence organizations. CHIMS is the only HUMINT automation provider for All-Source architectures for the Current to Future Force, including: ASAS Block 1 and 2, Distributed Common Ground System – Army (DCGS-A), PORTICO and Future Combat System (FCS). CHIMS systems are used to produce intelligence products to feed and maintain HUMINT databases and the All Source Correlated Data Base (ASCDB). CHIMS provides systems to both vertical and horizontal customer bases. Vertical (Army) clients include: Special Forces, Long Range Surveillance Units, all MACOMS, Reserves, National Guard, Stryker Brigade Combat Teams (SBCT), and the Intelligence School. Horizontal clients (non-Army) include U.S. Navy, U.S. Marine Corps, Joint Task Force (JTF) GTMO Cuba, and Defense Intelligence Agency (DIA). Organic automation and analysis capabilities are provided to Military Intelligence (MI) units with hand held reporting devices and to CI Staff Officers (CISO) with high capacity workstations and web servers, providing collection management, asset management, transmission, receipt, storage, and export of electronic data and digital imagery information including exploitation of foreign language materials and biometrics. CHIMS can produce and disseminate messages and reports through an array of communications systems including: serial, SINCGARS, STE, STU, satellite, and other organic communications devices. The CHIMS suite of systems incorporates a multi-tiered architecture that reaches from handheld devices to Web servers providing multiple security level access with both brilliant push and smart pull tools to the battlefield commander and National interests. PM CHIMS develops the CI/HUMINT Automated Management Software (CHAMS), a 3rd generation product providing advanced capabilities with a soldier friendly interface. The software provides asynchronous distributed databases that use a client server schema to maintain synchronicity In-Theater.
This system supports the Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

FY05 funding continues the spiral development of CHAMS functionality.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue spiral development of CHAMS functionality. | 2101 | 1773 | 210 |
| Develop hardware improvements for CHATS, ITRT and CI and I OP Workstations. | 0 | 0 | 90 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue development of CI/HUMINT SS WS and Human Domain Server | 60 | 156 | 298 |
| Continue Test and Security Accreditation efforts. | 161 | 174 | 80 |
| Support V4.2 SW | 0 | 0 | 250 |
| Totals | 2322 | 2103 | 928 |

| **B. Other Program Funding Summary** | 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) | 44805 | 13504 | 9652 | 9935 | 10232 | 11060 | 11645 | Continuing | Continuing |
| OPA (BK5275) CHIMS (TIARA) | 9490 | 14543 | 2924 | 729 | 6547 | 3280 | 5911 | Continuing | Continuing |
| RDTE (PE 64321, Project B49) CHIMS TADSS | 0 | 0 | 128 | 126 | 124 | 128 | 128 | 0 | 634 |

**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 (CI/HUMINT Automated Tool Set (CHATS), Individual Tactical Reporting Tool (ITRT), and Counterintelligence & Interrogation Operations (CI&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, which, through market research will be evaluated to provide the necessary technology upgrades to keep CHIMS' users at the forefront of intelligence automation. This integration of new development and COTS/GOTS ensures both a cost and time to field advantage for CHIMS clients.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1754 | 2Q | 1248 | 2Q | 171 | 2Q | Continue | 5506 | 0 |
| c . CHATS Development | Competitive T&M | TAMSCO, Eatontown, NJ | 1808 | 0 | | 0 | | 0 | | Continue | 1808 | 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 Integration | Competitive T&M | TAMSCO, Eatontown, NJ | 1566 | 0 | | 0 | | 0 | | Continue | 1566 | 0 |
| f . ITRT Development | Competitive T&M | TAMSCO, Eatontown, NJ | 444 | 0 | | 0 | | 0 | | Continue | 444 | 0 |
| g . Refugee Management System | CPFF | EWA, Fairmont, WV | 3000 | 0 | | 0 | | 0 | | 0 | 3000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9375 | 1804 | | 1248 | | 171 | | Continue | 12598 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 NVRSTA, 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 | 50 | 1Q | Continue | 418 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2090 | 295 | | 271 | | 147 | | 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 | | 40 | 2Q | 0 | 441 | 0 |
| b . Developmental Test | MIPR | EPG, Ft. Huachuca, AZ | 304 | 0 | | 0 | | 100 | 2Q | 0 | 404 | 0 |
| c . Test Support and Interoperability | MIPR | Ft. Hood and Ft. Huachuca | 0 | 35 | 2Q | 120 | 2Q | 100 | 2Q | Continue | 255 | 0 |
| d . Operational Test | MIPR | IEWTD, Ft. Huachuca, AZ | 79 | 0 | | 0 | | 0 | | 0 | 79 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| e . Test Articles | MIPR | ESS, Frederick, MD | 120 | 0 | | 0 | | 0 | | 0 | 120 | 0 |
| f . Security Accreditation Collateral | MIPR | CECOM, Ft. Monmouth, NJ | 105 | 60 | 2Q | 70 | 2Q | 70 | 2Q | Continue | 305 | 0 |
| g . SCI PL2 | MIPR | CECOM, Ft. Monmouth, NJ | 0 | 0 | | 80 | 2Q | 80 | 2Q | 0 | 160 | 0 |
| h . SCI PL2 Certification | MIPR | CECOM, Ft. Monmouth, NJ | 0 | 0 | | 160 | 2Q | 160 | 2Q | 0 | 320 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1009 | 95 | | 430 | | 550 | | Continue | 2084 | 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 | 154 | 1-4Q | 60 | 1-4Q | Continue | 863 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 521 | 128 | | 154 | | 60 | | Continue | 863 | 0 |
| Project Total Cost: | | | 12995 | 2322 | | 2103 | | 928 | | Continue | Continue | 0 |

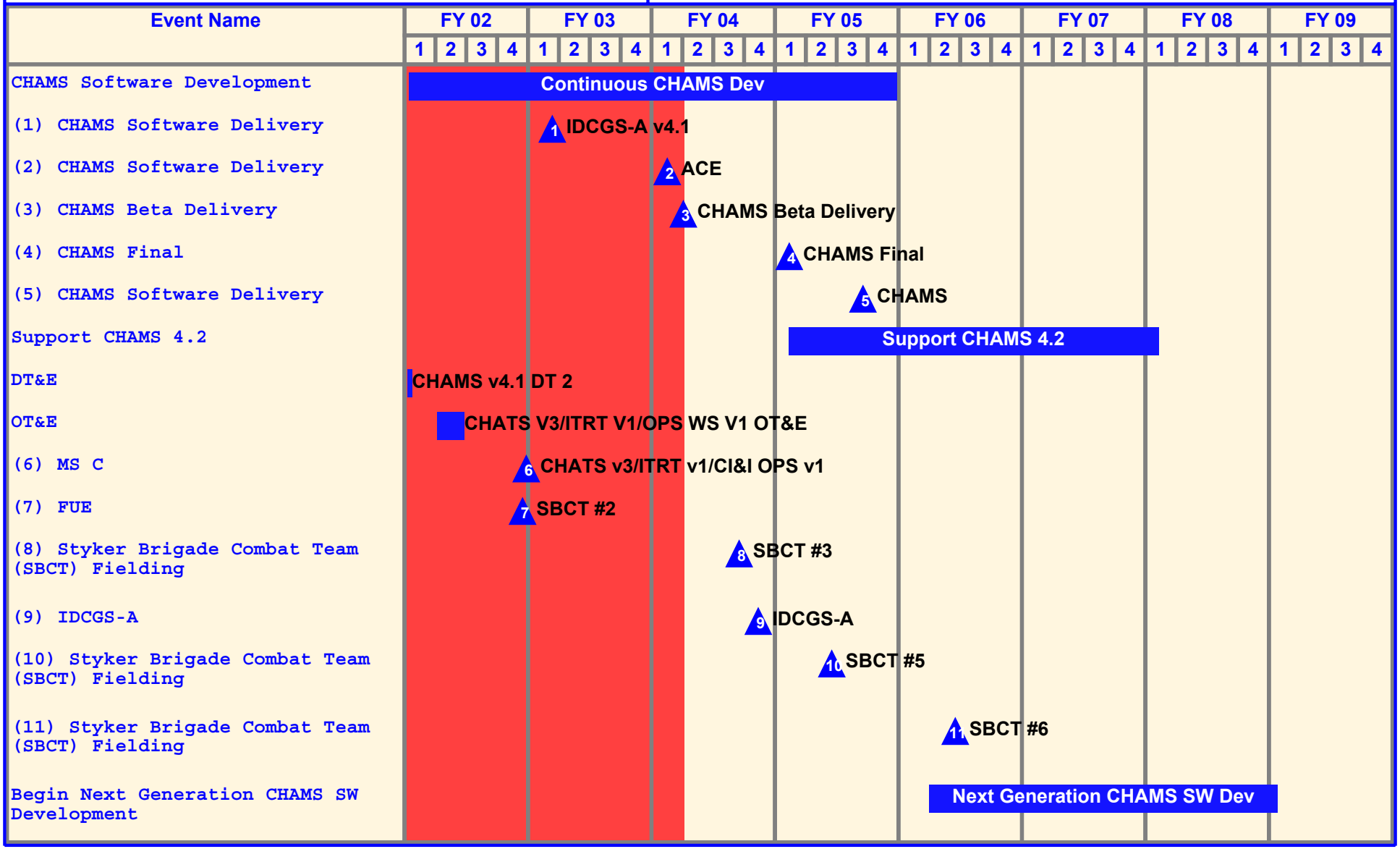
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B41**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B41** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CHAMS Software Spiral Development | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Continue CHATS software development and hardware improvements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| 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 | |
| Continue CI & I Ops software development and hardware improvements | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| Continue ITRT software development and hardware improvements | 1-4Q | 1Q | | | | | |
| Continue SS Workstation software development | 4Q | | | | | | |
| Participate in Interim DCGS-A Fielding III Corps | | 4Q | 1-3Q | | | | |
| Support CHAMS V4.2SW | | 4Q | 1-4Q | 1-4Q | | | |
| Begin Next Generation CHAMS SW Development | | | | 1Q | | | |
| Participate in interim DCGS-A Demo | | 3Q | | | | | |
| Complete CHAMS V4.2 development | | 3Q | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B44** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| B44 ASAS TADSS (TIARA) | 0 | 0 | 199 | 198 | 198 | 198 | 198 | 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 Current to Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Training Aids Devices Simulators and Simulations | 0 | 0 | 199 |
| Totals | 0 | 0 | 199 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B44**

| 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 . Training Aids Devices Simulators and Simulations | TBD | TBD | 0 | 0 | | 0 | | 199 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 199 | | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B44**

| 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 | | 0 | | 199 | | Continue | Continue | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604321A - ALL SOURCE ANALYSIS SYSTEM** | **B49** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| B49 CHIMS TADSS (TIARA) | 0 | 0 | 125 | 125 | 125 | 124 | 123 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Counterintelligence/Human Intelligence (CI/HUMINT) Information Management System (CHIMS) is the Army system responsible for collection, processing, and analysis of CI/HUMINT data to satisfy tactical and strategic human intelligence requirements. CHIMS provides the automation support for Army tactical CI/HUMINT information collection, investigation, interrogation, operations, biometrics, document exploitation, and force protection. The CHIMS architecture extends from the individual agent/collector to National and Theater intelligence organizations. CHIMS is the only HUMINT automation provider for All-Source architectures for the Current to Future Force, including: ASAS Block 1 and 2, Distributed Common Ground System – Army (DCGS-A), PORTICO and Future Combat System (FCS). CHIMS systems are used to produce intelligence products to feed and maintain HUMINT databases and the All Source Correlated Data Base (ASCDB). CHIMS provides systems to both vertical and horizontal customer bases. Vertical (Army) clients include: Special Forces, Long Range Surveillance Units, all MACOMS, Reserves, National Guard, Stryker Brigade Combat Teams (SBCT), and the Intelligence School. Horizontal clients (non-Army) include U.S. Navy, U.S. Marine Corps, Joint Task Force (JTF) GTMO Cuba, and Defense Intelligence Agency (DIA). Organic automation and analysis capabilities are provided to Military Intelligence (MI) units with hand held reporting devices and to CI Staff Officers (CISO) with high capacity workstations and web servers, providing collection management, asset management, transmission, receipt, storage, and export of electronic data and digital imagery information including exploitation of foreign language materials and biometrics. CHIMS can produce and disseminate messages and reports through an array of communications systems including: serial, SINCGARS, STE, STU, satellite, and other organic communications devices. The CHIMS suite of systems incorporates a multi-tiered architecture that reaches from handheld devices to Web servers providing multiple security level access with both brilliant push and smart pull tools to the battlefield commander and National interests. PM CHIMS develops the CI/HUMINT Automated Management Software (CHAMS), a 3rd generation product providing advanced capabilities with a soldier friendly interface. The software provides asynchronous distributed databases that use a client server schema to maintain synchronicity In-Theater. This project provides Training Aids, Devices, Simulators and Simulations (TADSS) for CHIMS.

This system supports the Current Force to Future Force transition path of the Transformation Campaign Plan.

FY05 begins the development of the TADSS for CHIMS.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop Training Aids, Devices, Simulators and Simulations for CHIMS systems. | 0 | 0 | 125 |
| Totals | 0 | 0 | 125 |

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

**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 (CI/HUMINT Automated Tool Set (CHATS), Individual Tactical Reporting Tool (ITRT), and Counterintelligence & Interrogation Operations (CI&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, which, through market research will be evaluated to provide the necessary technology upgrades to keep CHIMS' users at the forefront of intelligence automation. The acquisition strategy for CHIMS Training Aids, Devices, Simulators and Simulations has not yet been determined.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B49**

| 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 . Training Aids, Devices, Simulators and Simulations | TBD | TBD | 0 | 0 | | 0 | | 125 | | 0 | 125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 125 | | 0 | 125 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604321A - ALL SOURCE ANALYSIS SYSTEM**

PROJECT
**B49**

| 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 | | 0 | | 125 | | 0 | 125 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604329A - Common Missile** | **013** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 013 JOINT COMMON MISSILE | 28104 | 93705 | 152381 | 146851 | 83967 | 67095 | 57101 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Joint Common Missile (JCM) is an aviation-launched, Current-to-Future Force missile system that provides advanced line-of-sight (LOS) and beyond-line–of-sight (BLOS) capabilities, including precision strike, passive, and fire–and-forget seeker technologies; increased range; and increased lethality. Replacing aviation-launched TOW, the HELLFIRE family of missiles, and Maverick, JCM will become the weapon of choice for Army rotary-wing systems including the Longbow Apache (AH-64D) and Comanche (RAH-66). JCM is also a lethality candidate for Future Combat Systems (FCS) ground platforms. The JCM is a Joint program (rotary and fixed wing requirements) with the Navy and USMC for the Super Hornet (F/A-18E/F), the Seahawk (MH-60R), and Super Cobra (AH-1Z). Finally, JCM is a cooperative development program with the United Kingdom for their fixed and rotary wing aircraft. The JCM maximizes the warfighters' operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced armor, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers and light armored vehicles. Its multi-mode seeker will allow maximum capability in adverse weather, day or night, and in an obscured/countermeasure environment against both stationary and moving targets. JCM supports more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon. It also allows flexibility in the location of resupply on the battlefield, thereby minimizing the logistic burden of the combat force. JCM's modular design 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.

FY04 began a two-phased Increment I System Development and Demonstration (SDD) program will begin. Phase 1 will focus on risk mitigation (e.g., demonstrating progress toward meeting 16 kilometer range) culminating in a system Preliminary Design Review (PDR). Phase 2, to be initiated in FY05, will focus on system integration and demonstration and will culminate with limited user testing and an operational assessment. 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 the multi-mode seeker, boost/sustain propulsion and a multi-purpose warhead. Additional capabilities forecast for follow-on increments include a man-in-the-loop (MITL) inflight target update, controllable missile velocity, and an anti-radiation homing variant to engage threat tactical air defense radar emitters.

The JCM system supports the Current to Future Force transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Complete Risk Reduction engineering effort on seeker, warhead, propulsion and platform integration | 18271 | 0 | 0 |
| 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 | 9833 | 0 | 0 |
| Initiate risk mitigation phase, e.g., demonstrating progress toward 16 kilometer range (Conduct Phase 1 effort) | 0 | 71200 | 0 |
| Initiate Qualified Baseline Design, developmental testing, operational assessment and system integration and demonstration for SDD (Conduct Phase 2 effort) | 0 | 0 | 135470 |
| Procure component hardware for engineering testing, prepare and update missile design documentation and procure prototype hardware and test equipment (RDT&E Articles-Flyable, Non-Flyable, and Low Fidelity Inert) | 0 | 19884 | 16911 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 2621 | 0 |
| Totals | 28104 | 93705 | 152381 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 28602 | 183790 | 182932 |
| Current Budget (FY 2005 PB) | 28104 | 93705 | 152381 |
| Total Adjustments | -498 | -90085 | -30551 |
| Congressional program reductions | | -89991 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -498 | -94 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -30551 |

FY04 decreased $89.1 million as a result of Congressional reduction and FY05 funds realigned to higher priority Army requirements.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| C70302 - Joint Common Missile (JCM) | 0 | 0 | 0 | 0 | 6196 | 71668 | 102793 | 2450100 | 2630757 |

**D. Acquisition Strategy:** In JCM's previous phase (Concept and Technology Development, C/TD), JCM contractors were selected via full and open competition. The JCM program's acquisition strategy consists of two increments in an evolutionary acquisition: the full Increment 1 capability will be acquired in a 48 month System Development and Demonstration effort through a two-phased approach. Phase 1 will focus on risk mitigation culminating in a system Preliminary Design Review (PDR). Immediately following, Phase 2 will focus on system integration and demonstration leading to a Milestone C decision. The Increment 1 SDD effort will be competed among the C/TD contractors for contract award covering Phase 1 and Phase 2 development.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 (CTD) | CPFF, Full & Open | Raytheon, AZ; Lockheed Martin, FL; Boeing, AL | 7083 | 8509 | 1Q | 0 | | 0 | | 0 | 15592 | 0 |
| b . Prime Contract (SDD) | TBD | TBD | 0 | 0 | | 64656 | 2-4Q | 119290 | 1Q | 340291 | 524237 | 0 |
| c . Support Contracts (Risk Reduction/SDD) | Various | Various | 4219 | 5291 | 1-3Q | 6104 | 1-3Q | 8047 | 1-3Q | 18695 | 42356 | 0 |
| d . Development Engineering (Risk Reduction/SDD) | Various | Various | 2013 | 3360 | 1-4Q | 6897 | 1-4Q | 6950 | 1-4Q | 27997 | 47217 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13315 | 17160 | | 77657 | | 134287 | | 386983 | 629402 | 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 | 2900 | 1-3Q | 2816 | 1-3Q | 3025 | 1-3Q | 13084 | 23236 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1411 | 2900 | | 2816 | | 3025 | | 13084 | 23236 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604329A - Common Missile**

PROJECT
**013**

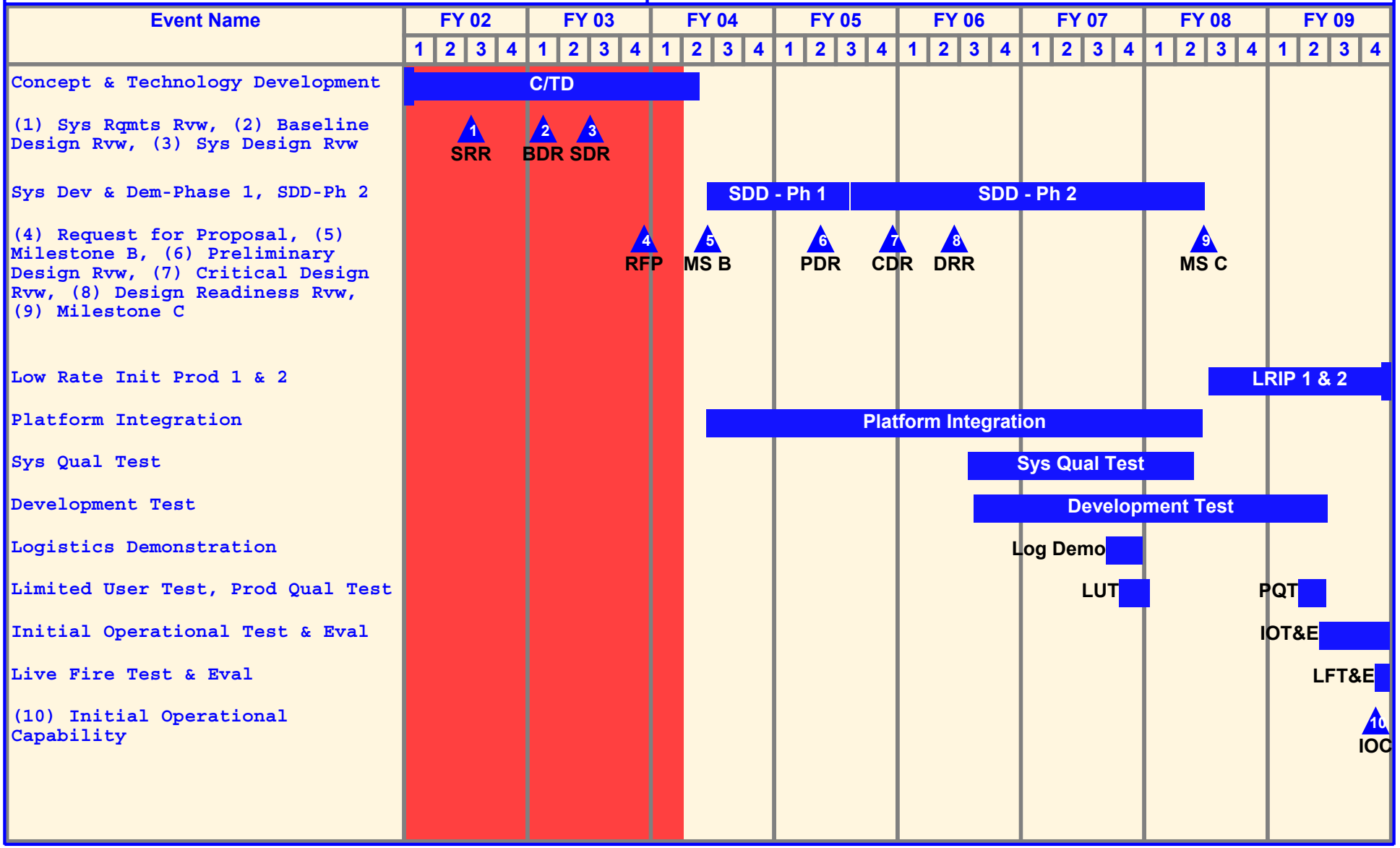
| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Other Gov Agencies/Government Inhouse Test Support | TBD | TBD | 1119 | 2159 | 1-3Q | 3261 | 1-3Q | 4337 | 1-3Q | 55075 | 65951 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1119 | 2159 | | 3261 | | 4337 | | 55075 | 65951 | 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 | Various | Various | 4913 | 5885 | 1-4Q | 9971 | 1-4Q | 10732 | 1-4Q | 47872 | 79373 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4913 | 5885 | | 9971 | | 10732 | | 47872 | 79373 | 0 |
| Project Total Cost: | | | 20758 | 28104 | | 93705 | | 152381 | | 503014 | 797962 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604329A - Common Missile | 013 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604329A - Common Missile** | **013** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Baseline Design Review (BDR) | 1Q | | | | | | |
| System Design Review (SDR) | 3Q | | | | | | |
| Complete Initial Performance Modeling & Virtual Prototype | 3Q | | | | | | |
| Complete Initial Design CAD/CAE | 3Q | | | | | | |
| Complete Initial Simulation of System in Battlefield | 4Q | | | | | | |
| Request for Proposal (RFP) | 4Q | | | | | | |
| Milestone B Decision | | 2Q | | | | | |
| SDD Contract Award | | 2Q | | | | | |
| Preliminary Design Review (PDR) | | | 2Q | | | | |
| Platform Integration | | 2Q | 1-4Q | 1-4Q | 1-4Q | 2Q | |
| Critical Design Review (CDR) | | | 4Q | | | | |
| Design Readiness Review (DRR) | | | | 2Q | | | |
| System Qualification | | | | 3-4Q | 1-4Q | 1-2Q | |
| Development Test | | | | 3-4Q | 1-4Q | 1-4Q | 1-2Q |
| Milestone C Decision | | | | | | 2Q | |
| LRIP 1 | | | | | | 2Q | |
| Logistics Demonstration | | | | | 3-4Q | | |
| Limited User Test (LUT) | | | | | 4Q | 1Q | |
| LRIP 2 | | | | | | | 2Q |
| Production Qualification Test (PQT) | | | | | | | 2Q |
| Initial Operational Test & Evaluation (IOT&E) | | | | | | | 3-4Q |
| Live Fire Test & Evaluation (LFT&E) | | | | | | | 4Q |
| Initial Operational Capability (IOC) | | | | | | | 4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604601A - Infantry Support Weapons** | **033** |

| COST (In Thousands) | FY 2003 Actual | 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 | 28340 | 28187 | 42662 | 43609 | 20324 | 10593 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project addresses the development of the 25mm XM307 Advanced Crew Served Weapon (ACSW) which will meet the Future Combat Systems (FCS) requirement for a Common Close Support Weapon. The FCS Lethality IPT has recommended the XM307 as the primary or secondary armament solution for nine of the Manned and Unmanned Ground Vehicles. The potential exists to expand to support the dismounted infantry in current vehicle mounted machine gun applications. The project will result in the development of a lightweight 25mm machine gun system which uses a full solution fire control enabling the soldier to effectively suppress and incapacitate exposed and defilade personnel targets out to 2000 meters using airbursting (fragmentation or thermobaric) munitions; and defeat lightly armored vehicles out to 1500 meters using shaped charge warheads/thermobaric munitions. The XM307 is capable of firing .50 caliber ammunition by exchanging five parts and will be used as a development tool. The .50 caliber variant will also serve as an integration and training tool. Systems will be fabricated for FCS integration. Successful development of the XM307 will increase the warfighter's lethality while significantly reducing his tactical load and supportability costs in accordance with the Current to Future transition path of the Army's Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Award Development Contract | 0 | 800 | 0 |
| Design Weapon System Hardware | 0 | 14517 | 2922 |
| Fabricate Weapon System Hardware | 0 | 9300 | 13565 |
| Establish Interface Controls | 0 | 900 | 2200 |
| ILS/Training | 0 | 1500 | 4000 |
| Conduct Weapon System Design Validation Test | 0 | 500 | 5000 |
| Critical Design Review/IPR | 0 | 0 | 500 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 823 | 0 |
| Totals | 0 | 28340 | 28187 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 21637 | 28515 |
| Current Budget (FY 2005 PB) | 0 | 28340 | 28187 |
| Total Adjustments | 0 | 6703 | -328 |
| Congressional program reductions | | -269 | |
| Congressional rescissions | | | |
| Congressional increases | | 7000 | |
| Reprogrammings | | -28 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -328 |

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

**D. Acquisition Strategy:** In support of Annexes D, G and I of the FCS ORD dated 15 April 2003 the XM307 Advanced Crew Served Weapon will be developed as the Common Close Support Weapon for potentially nine FCS vehicle variants. The XM307, ACSW, is a core essential system for FCS Increment 1. The Acquisition Strategy and Acquisition Plan were approved by the AAE on 30 Dec 2003. A J&A has been submitted to the Army Acquisition Executive for approval to award the SDD contract to the original weapon system developer. The PM will utilize Alpha negotiations to award a Cost Plus Award Fee contract. Cost as an Independent Variable and Design to Unit Cost will be applied. Supportability will be addressed (at the beginning and) throughout the program.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 23023 | 1-2Q | 19132 | 2Q | 0 | 42155 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 23023 | | 19132 | | 0 | 42155 | 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 | | 1719 | 2-3Q | 2650 | 2Q | 0 | 4369 | 0 |
| b . ILS | MIPR | Tank Automotive Cmd, Rock Island, IL | 0 | 0 | | 100 | 2-3Q | 195 | 2Q | 0 | 295 | 0 |
| c . Sensor Development | MIPR | PM SDR Sensors, Ft Belvoir, VA | 0 | 0 | | 40 | 2-3Q | 850 | 2Q | 0 | 890 | 0 |
| d . Training and Simulation | MIPR | PEO STRI, Orlando, FL | 0 | 0 | | 193 | 2-3Q | 1500 | 2Q | 0 | 1693 | 0 |
| e . HEL | MIPR | Army Research Lab, MD | 0 | 0 | | 300 | 2-3Q | 150 | 3Q | 0 | 450 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2352 | | 5345 | | 0 | 7697 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 335 | 2-3Q | 650 | 2-3Q | 0 | 985 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 335 | | 650 | | 0 | 985 | 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 | | 2420 | 1-4Q | 2830 | 1-4Q | 0 | 5250 | 0 |
| b . Travel | In House | PM Soldier Wpns, Picatinny Arsenal, NJ | 0 | 0 | | 210 | 1-4Q | 230 | 1-4Q | 0 | 440 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2630 | | 3060 | | 0 | 5690 | 0 |
| Project Total Cost: | | | 0 | 0 | | 28340 | | 28187 | | 0 | 56527 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604601A - Infantry Support Weapons** | **033** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award Development Contract | | 3-4Q | | | | | |
| Design Weapon System Hardware | | 2-4Q | 1-4Q | | | | |
| Fabricate Weapon System Hardware | | 2-4Q | 1-4Q | | | | |
| Deliver Weapons to FCS | | | 2Q | | | | |
| Establish Interface Controls | | 3-4Q | | | | | |
| ILS/Training | | 2-4Q | 1-4Q | | | | |
| Conduct Weapon System Design ValidationTest | | | 3-4Q | | | | |
| Critical Design Review/IPR | | | 4Q | | | | |
| Fabricate Deliverables | | | | 1-4Q | 1Q | | |
| Deliver Upgrade Kits and Ammunition to FCS | | | | 2Q | | | |
| Technical Test | | | | | 1-2Q | | |
| User Evaluation | | | | | 2-3Q | | |
| Milestone C | | | | | 4Q | | |
| LRIP | | | | | | 1-4Q | 1-4Q |
| Award LRIP Option (Weapon and Ammo) | | | | | | 1Q | |
| Fabricate IOT&E and Live Fire Hardware | | | | | | 1Q | |
| Production Qualification Testing (PQT) | | | | | | 2Q | |
| Live Fire Test & Evauation (LFT&E) | | | | | | 4Q | |
| Initial Operational Test and Evaluation (IOTE) | | | | | | | 1Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604604A - MEDIUM TACTICAL VEHICLES** | **H07** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3584 | 4321 | 2854 | 1924 | 1917 | 2084 | 2035 | Continuing | Continuing |

**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 1/2-ton 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 Truck with increased load capabilities (10-ton) 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 Stryker Force and the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Load Handling System (LHS) (Performance Test/Contr Test Support) | 690 | 590 | 0 |
| Load Handling System (LHS) (Drawings/Report Writing) | 537 | 0 | 0 |
| Cab Survivability Improvement (Engr Studies/Prototype Dev/Analysis) | 798 | 470 | 500 |
| Alternative Propulsion System - Hybrid (Engr Studies/Component Integration) | 259 | 1290 | 654 |
| Competitive Rebuy Testing - Limited User Test(LUT) | 0 | 0 | 1200 |
| Dump 10T (Hardware Dev/Installation/Testing and Drawings) | 1300 | 1846 | 0 |
| Dump 10T (Drawings Completion) | 0 | 0 | 500 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 125 | 0 |
| Totals | 3584 | 4321 | 2854 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604604A - MEDIUM TACTICAL VEHICLES** | **H07** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 1866 | 4366 | 2879 |
| Current Budget (FY 2005 PB) | 3584 | 4321 | 2854 |
| Total Adjustments | 1718 | -45 | -25 |
| Congressional program reductions | | -41 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 1718 | -4 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -25 |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| OPA1 Family of Medium Tactical Vehicles (D15500) | 658943 | 344679 | 505664 | 512104 | 562807 | 534385 | 718612 | Continue | Continue |

**D. Acquisition Strategy:** The engineering contractual efforts will be on a Cost Plus Fixed Fee (Level of Effort) basis. The procurement of vehicle platforms will use the current multiyear Firm Fixed Price (FFP) production contract.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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) | SS-CPFF | Stewart & Stevenson, Sealy, TX | 1952 | 537 | 2-4Q | 250 | 1Q | 0 | | 0 | 2739 | 0 |
| b . Dump - 10T - Prototype Dev | SS-CPFF | Stewart & Stevenson, Sealy, TX | 769 | 1300 | 2-4Q | 846 | 1-2Q | 500 | 2Q | 0 | 3415 | 0 |
| c . Cab Survivability Impr. (FMTV) - Kit Dev | C-T&M | KRC, Houghton, MI | 658 | 50 | 2Q | 0 | | 0 | | 0 | 708 | 0 |
| d . Cab Survivability Impr. (FMTV) - Future Dev | C-CPFF | Camber Corporation, Huntsville, AL | 0 | 748 | | 470 | 2Q | 500 | 2Q | 2000 | 3718 | 0 |
| e . Alternative Propulsion System | TBD | | 0 | 259 | 4Q | 1415 | 2Q | 654 | 2Q | 5483 | 7811 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3379 | 2894 | | 2981 | | 1654 | | 7483 | 18391 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | MIPR/PO | ATC, Aberdeen Proving Grounds, MD | 1071 | 690 | 2-4Q | 340 | 1Q | 0 | | 0 | 2101 | 0 |
| b . Dump - 10T - PPQT | MIPR/PO | ATC, Aberdeen Proving Grounds, MD | 0 | 0 | | 1000 | 1-2Q | 0 | | 0 | 1000 | 0 |
| c . Competitive Rebuy Testing - LUT | MIPR/PO | ATC, Aberdeen Proving Grounds, MD | 0 | 0 | | 0 | | 1200 | 4Q | 400 | 1600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1071 | 690 | | 1340 | | 1200 | | 400 | 4701 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 3584 | | 4321 | | 2854 | | 7883 | 23092 | 0 |

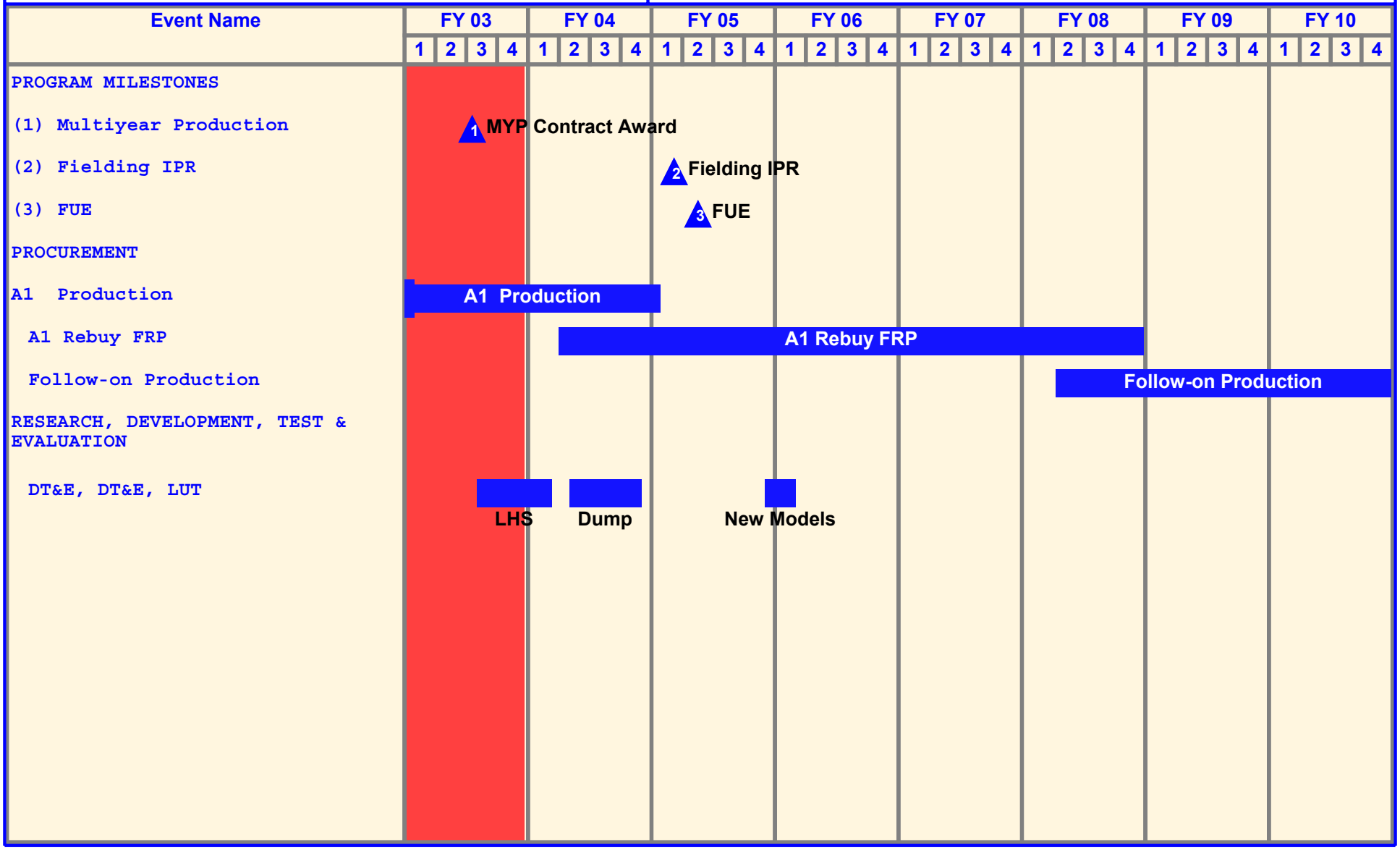
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604604A - MEDIUM TACTICAL VEHICLES**

PROJECT
**H07**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604604A - MEDIUM TACTICAL VEHICLES** | **H07** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Multiyear Production Contract Award | 3Q | | | | | | |
| Fielding IPR | | | 1Q | | | | |
| First Unit Equipped (FUE) | | | 2Q | | | | |
| A1 Production | 1-4Q | 1-4Q | 1Q | | | | |
| A1 Rebuy Production | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| Follow-On Production | | | | | | 2-4Q | 1-4Q |
| FMTV - Load Handling System (LHS) - Developmental Testing and Evaluation | 3-4Q | 1Q | | | | | |
| Dump 10T - Developmental Testing and Evaluation | | 2-4Q | | | | | |
| Limited User Test (LUT) (FMTV A1 Competitive Rebuy) | | | 4Q | 1Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** |

| COST (In Thousands) | FY 2003 Actual | 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 | 7521 | 11968 | 3798 | 0 | 5156 | 19712 | 26962 | Continuing | Continuing |
| 198 TARGET DEFEATING SYSTEM | 328 | 340 | 0 | 0 | 5156 | 7078 | 15583 | 0 | 14319 |
| 200 SMOKE/OBSCURANT SYSTEM | 7193 | 11628 | 3798 | 0 | 0 | 12634 | 11379 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** 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. 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 forces, complement combined weapon systems, and enhance force effectiveness and combat power.

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. 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.

Systems developed in this PE primarily support the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 7654 | 12094 | 4223 |
| Current Budget (FY 2005 PB) | 7521 | 11968 | 3798 |
| Total Adjustments | -133 | -126 | -425 |
| Congressional program reductions | | -114 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -133 | -12 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -425 |

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

**February 2004**

| 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 2003 Actual | 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 | 7193 | 11628 | 3798 | 0 | 0 | 12634 | 11379 | Continuing | Continuing |

**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 armed forces, complement combined weapon 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| MMW - Fabricated and installed two MMW systems on two M56 Smoke Systems for conducting engineering design tests (Estimated value $150K each MMW prototype). | 6520 | 0 | 0 |
| MMW - Conduct engineering design tests. | 400 | 400 | 0 |
| MMW - Continue engineering design program including any necessary redesign following engineering design test, logistics program evaluation, and material evaluation. | 0 | 2000 | 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 | 4490 | 0 |
| MMW - Procure necessary MMW material for contractor and Government tests. | 173 | 1200 | 0 |
| MMW - Conduct production qualification and initial operational test and evaluation. | 0 | 2000 | 1500 |
| MMW - Conduct toxicological and environmental studies. | 100 | 1200 | 700 |
| MMW - Conduct redesign effort for integration of MMW into candidate robotic systems and conduct Milestone C. | 0 | 0 | 1598 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 338 | 0 |
| Totals | 7193 | 11628 | 3798 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev** | **200** |

| **B. Other Program Funding Summary** | 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 | 3238 | 3424 | 3476 | 3633 | 3661 | 3716 | 3798 | Continuing | Continuing |
| RDTE,A Budget Activity 4, PE 0603627A, Smoke. Obscurant and Target Defeat | 2324 | 10147 | 6249 | 6199 | 8140 | 15060 | 8817 | Continuing | Continuing |
| Other Procurement Army, OPA3, M99103, M56 Smoke Generator | 22345 | 23170 | 26 | 0 | 27483 | 46185 | 1474 | 0 | 144067 |
| Other Procurement Army, OPA3,G71300, Light Vehicle Obscuration Smoke System | 2906 | 13820 | 3837 | 2885 | 962 | 0 | 0 | 0 | 24410 |

**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(R3)

**February 2004**

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, FL | 6749 | 5720 | 1Q | 5438 | 1Q | 1000 | | 0 | 18907 | 0 |
| b . MMW - Evaluates and designs robotic system integration planning | In house | SBCCOM, APG, MD | 400 | 400 | 1Q | 728 | 1Q | 300 | 1Q | 0 | 1828 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7149 | 6120 | | 6166 | | 1300 | | 0 | 20735 | 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 | 100 | 1Q | 1155 | 1Q | 700 | 1Q | 0 | 2854 | 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 | 200 | | 1255 | | 750 | | 0 | 3164 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 2802 | 1Q | 1200 | 1Q | 0 | 4235 | 0 |
| b . MMW - Engineering design testing - Contractor | C/CPFF | Titan Industries, Deland, FL | 1300 | 400 | 1Q | 400 | 1Q | 0 | | 0 | 2100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1533 | 400 | | 3202 | | 1200 | | 0 | 6335 | 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 | 237 | 1Q | 705 | 1Q | 348 | 1Q | 0 | 3174 | 0 |
| b . MMW - Project Management Personnel | C/CPFF | Titan Industries, Deland, FL | 300 | 236 | 1Q | 300 | 1Q | 200 | 1Q | 0 | 1036 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2184 | 473 | | 1005 | | 548 | | 0 | 4210 | 0 |
| Project Total Cost: | | | 11825 | 7193 | | 11628 | | 3798 | | 0 | 34444 | 0 |

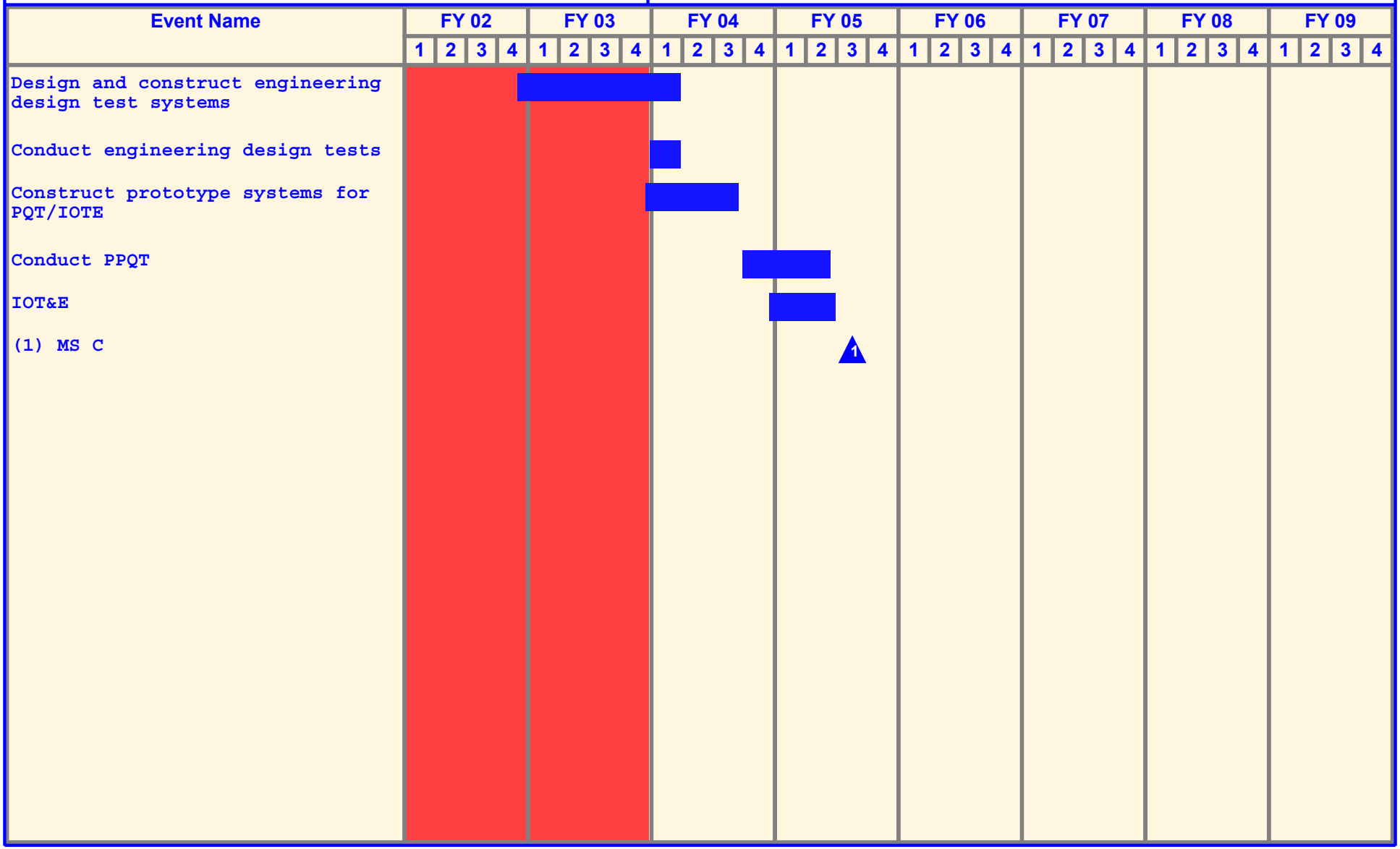
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**

PROJECT
**200**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MMW - Design and construct engineering design test systems | 1-4Q | | | | | | |
| MMW - Conduct engineering design tests | 4Q | 1Q | | | | | |
| MMW - Construct prototype systems for PQT/IOTE | | 1-3Q | | | | | |
| MMW - Conduct Production Qualification Test (PPQT) | | 4Q | 1-3Q | | | | |
| MMW - Conduct Initial Operational Test and Evaluation (IOTE) | | | 1-3Q | | | | |
| MMW - Conduct Milestone C and system acceptance | | | 4Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604611A - JAVELIN** | **499** |

| COST (In Thousands) | FY 2003 Actual | 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) | 467 | 946 | 944 | 0 | 0 | 0 | 0 | 0 | 5698 |

**A. Mission Description and Budget Item Justification:** The Javelin is a medium-range, manportable, shoulder launched fire and forget anti-armor weapon system. Javelin is a critical system to the operational design of the Army's Future Force because of its precision strike, man-portability, high reliability, and capability to engage multiple targets (tanks, armored personnel carriers, bunkers, helicopters, walls, etc). These key system aspects support the Army's transformation to a more versatile, deployable, lethal, survivable, joint/expeditionary 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 the current Stryker and Future forces. 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 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 Current to Future Force Transition Path of the Tranformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue development of Counter Active Protection System/Countermeasures Software | 80 | 25 | 25 |
| Initiate CAPS Antenna Development | 40 | 226 | 280 |
| Initiate CAPS technology transfer | 40 | 125 | 107 |
| Perform seeker Trade Study/Alternate Guide Modes | 0 | 125 | 125 |
| Initiate design efforts to restructure the Guidance Electronics Unit | 307 | 418 | 407 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 27 | 0 |
| Totals | 467 | 946 | 944 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604611A - JAVELIN** | **499** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 467 | 956 | 952 |
| Current Budget (FY 2005 PB) | 467 | 946 | 944 |
| Total Adjustments | 0 | -10 | -8 |
| Congressional program reductions | | -9 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | -1 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -8 |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| Missile Procurement, Army, CC0007, Javelin | 221658 | 139671 | 117803 | 22446 | 29079 | 38907 | 22777 | 0 | 1001017 |
| Missile Procurement, Army, CA0269, Javelin Initial Spares | 3454 | 3094 | 3516 | 1281 | 500 | 501 | 502 | 0 | 15176 |

**D. Acquisition Strategy:** Javelin CAPS/Countermeasures is being developed by the Aviation and Missile Research Development and Engineering Center and integrated into the Javelin Missile System as part of a sole source procurement through the Javelin Joint Venture. This effort provides counter active protection interface capability for future/emerging threats. This program is developing technology that can be used in other tactical missile systems within the PEO such as TOW, Joint Common Missile, and NLOS-LS.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 13852 | 16875 | 2479 | 3467 | 43036 | 11887 | 11877 | Continuing | Continuing |
| 659 | FAMILY OF HVY TAC VEH | 30 | 1453 | 2479 | 2476 | 3468 | 991 | 989 | Continuing | Continuing |
| E49 | HEMTT | 13822 | 14448 | 0 | 0 | 38577 | 9905 | 9899 | Continuing | Continuing |
| E50 | TRAILER DEVELOPMENT | 0 | 974 | 0 | 991 | 991 | 991 | 989 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program element aligns system development and demonstration of Heavy Tactical Vehicles with Future 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 Project E49 provides funds for the prototype development of the HEMTT A3. FY2004 Project E50 provides funds to support the continued modernization of the Army's trailer fleets. It supports the continuous product improvements, technology insertion, and new capabilities for tactical trailers. This project supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 14521 | 9200 | 10756 |
| Current Budget (FY 2005 PB) | 13852 | 16875 | 2479 |
| Total Adjustments | -669 | 7675 | -8277 |
| Congressional program reductions | | -159 | |
| Congressional rescissions | | | |
| Congressional increases | | 7850 | |
| Reprogrammings | -669 | -16 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -8277 |

Funding - FY2004: Congressional increase supports the HEMTT A3 Program.
FY2005: Decrease of $10.756M in the Future Tactical Truck System Program.
FY2005: Increase of $2.479M for Movement Tracking Systems.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **659** |

| COST (In Thousands) | FY 2003 Actual | 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 | 30 | 1453 | 2479 | 2476 | 3468 | 991 | 989 | Continuing | Continuing |

**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. FY2005 funding supports development of Block Modifications 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Development of the engineering and prototype models of the M915 Crew Protection Kit | 30 | 110 | 0 |
| Acquire prototypes for testing | 0 | 500 | 0 |
| Conduct prototype testing on the M915 Crew Protection Kit | 0 | 800 | 0 |
| Development of block modifications on the Movement Tracking System | 0 | 0 | 2479 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 43 | 0 |
| Totals | 30 | 1453 | 2479 |

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

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA1 D15900, Truck, Tractor, Line Haul | 38865 | 30162 | 2962 | 13142 | 17143 | 0 | 3508 | 0 | 148042 |
| OPA1 D16103, Movement Tracking System | 44005 | 17952 | 19078 | 24073 | 27193 | 35238 | 35353 | 0 | 202892 |

**C. Acquisition Strategy:** Limited RDTE effort to support follow-on production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 0 | 30 | 2-4Q | 110 | 1-2Q | 0 | | 0 | 140 | 0 |
| b . Crew Protection Kit System Development & Demonstration Award | C-CPFF | TBD | 0 | 0 | | 543 | 3Q | 0 | | 0 | 543 | 0 |
| c . MTS Software Development, Engineering, Testing, Program Management | C/CPIF | TBD | 0 | 0 | | 0 | | 2479 | 2Q | 7924 | 10403 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 30 | | 653 | | 2479 | | 7924 | 11086 | 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(R3)

**February 2004**

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 | | 800 | 4Q | 0 | | 0 | 800 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 800 | | 0 | | 0 | 800 | 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 | 30 | | 1453 | | 2479 | | 7924 | 11886 | 0 |

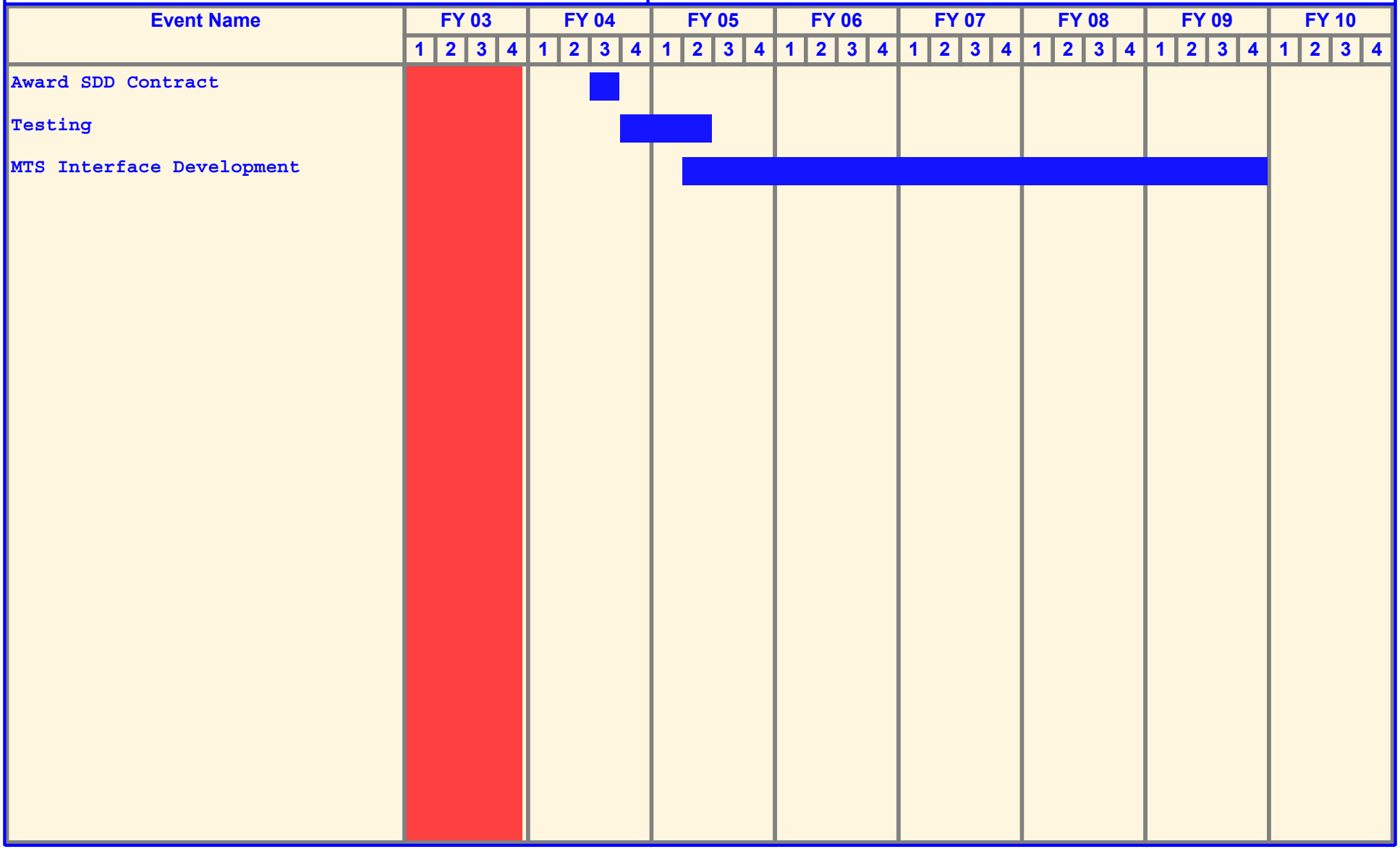
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**659**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **659** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award System Development & Demonstration contract for Crew Protection Kit | | 3Q | | | | | |
| Conduct testing on Crew Protection Kit | | 4Q | 1-2Q | | | | |
| MTS Continuous Block Improvements | | | 2-3Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E49** |

| COST (In Thousands) | FY 2003 Actual | 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 | 13822 | 14448 | 0 | 0 | 38577 | 9905 | 9899 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** FY2004 funds the HEMTT A3 prototype development. The current tactical wheeled vehicle fleet cannot sustain the Future Force due to an outdated architecture that imposes severe limitations such as: the requirement for external material handling equipment, an increasingly cumbersome logistics footprint, poor C130 deployability, poor fuel economy, an outdated design that does not optimize 2 level maintenance, an inability to maintain the OPTEMPO of the future force pacing systems, and mobility limitations that will not allow true seamless, just in time support. The HEMTT vehicle program requires insertion of current, mature technology to increase the capability of the vehicle toward the future force requirements. This technology infusion will be accomplished through the HEMTT A3 program within the objective level capabilities of the current HEMTT ORD. This R&D effort will focus on the integration of technologies which will reduce vehicle fuel consumption; reduce vehicle weight; increase mobility; enable C130 transport with load; increase mobility rated speed; enable roll-on roll-off C130 transportability without prep; enable direct C130 unloading capabilities; embed diagnostics and prognostics using condition based maintenance; reduce logistics footprint and enable the optimization of 2-level maintenance concepts. Revised propulsion system, independent suspension, multiplexed electric system, and an enhanced Load Handling System are under consideration as key enablers to achieve the stated objectives. The crew cab environment will be optimized to integrate the Command, Control, Communication & Computers & Information, embedded Interactive Electronic Tech Manuals, climate control and personal crew storage space. Research efforts will be partnered with various Government Agencies, Industry Partners, and Academia to leverage existing ongoing technology development and integration efforts, and grow capabilities required to approach the future force capabilities. 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Encryption Validation | 0 | 0 | 0 |
| User Functional Description (UFD) enhanced software development. | 1300 | 0 | 0 |
| Embedded Military Global Positioning System Selective Availability Anti-Spoofing Module interface development. | 500 | 0 | 0 |
| United States Army, Europe-Defense Transportation Recording And Control System interface development. | 100 | 0 | 0 |
| Automated Identification Technology/Radio Frequency Identification Device interface development. | 100 | 0 | 0 |
| Global Combat Support System-Army (Combat Service Support Control System/Force XXI Battle Command Battalion/Brigade and Below) interface development. | 861 | 0 | 0 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| HEMTT advanced technology improvement development. | 8177 | 4000 | 0 |
| HEMTT advanced technology improvement prototypes. | 2784 | 5500 | 0 |
| Testing of HEMTT advanced technology improvements. | 0 | 2000 | 0 |
| Development of Condition Based Maintenance | 0 | 2528 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 420 | 0 |
| Totals | 13822 | 14448 | 0 |

| B. Other Program Funding Summary | 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 | 257983 | 217469 | 84038 | 126016 | 204967 | 177513 | 138906 | 1407746 | 2773737 |

**C. Acquisition Strategy:** HEMTT Block improvements will be developed as an advanced technology insertion for the HEMTT platform. The R&D technology insertion program will be accomplished through the HEMTT Original Equipment Manufacturer, Oshkosh Truck Corporation, as the System Integrator for the HEMTT program. The program will produce test vehicles that will undergo extensive performance and durability testing at government test facilities to validate the effectiveness and suitability of the enabling technologies. Award of a production contract will follow successful completion of government testing and evaluation. Condition Based Maintenance will be contracted with DRS Laurel to leverage and advance ruggedized sensor based technologies and diagnostic algorithm development.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 7877 | 2Q | 4000 | 2Q | 0 | | 0 | 11877 | 0 |
| d . Technical Improvement Prototypes | CPFF | Oshkosh Truck Corp., Oshkosh, WI | 0 | 2784 | 4Q | 5920 | 4Q | 0 | | 0 | 8704 | 0 |
| e . FTTS Development | | | 0 | 0 | | 0 | | 0 | | 58381 | 58381 | 0 |
| f . Condition Based Maintenance Development | CPFF | DRS Laurel | 0 | 0 | | 2528 | 2Q | 0 | | 0 | 2528 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2510 | 13822 | | 12448 | | 0 | | 58381 | 87161 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2000 | | 0 | | 0 | 2000 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 13822 | | 14448 | | 0 | | 58381 | 89161 | 0 |

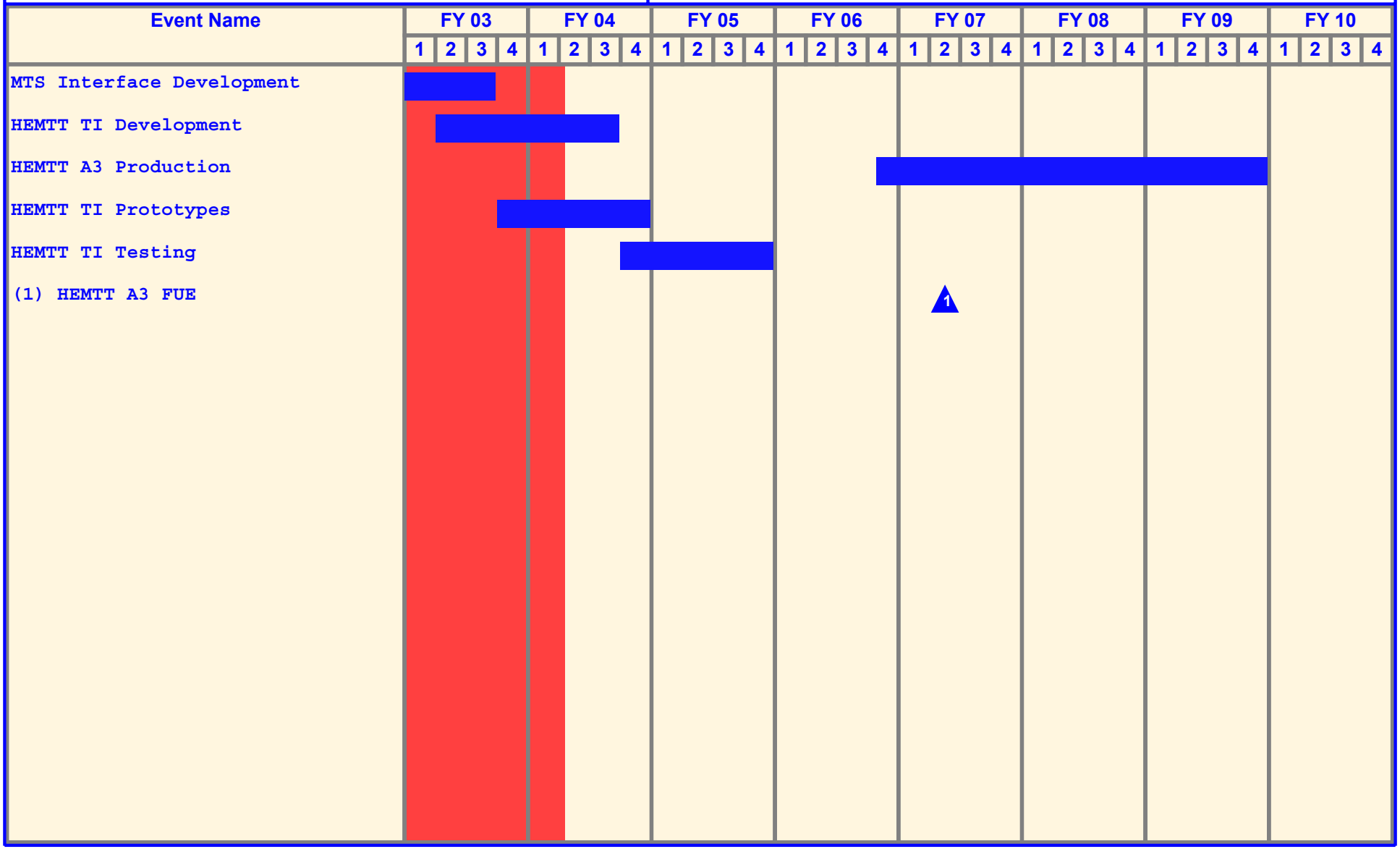
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604622A - Family of Heavy Tactical Vehicles**

PROJECT
**E49**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E49** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MTS Interface development | 1-3Q | | | | | | |
| HEMTT Technical Improvement development | 2-4Q | 1-3Q | | | | | |
| HEMTT Technical Improvement Prototypes | 4Q | 4Q | | | | | |
| HEMTT Technical Improvement Testing | | 4Q | 1-4Q | | | | |
| HEMTT A3 Production | | | | 4Q | 1-4Q | 1-4Q | 1-4Q |
| HEMTT A3 FUE | | | | | 2Q | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604622A - Family of Heavy Tactical Vehicles** | **E50** |

| COST (In Thousands) | FY 2003 Actual | 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 | 974 | 0 | 991 | 991 | 991 | 989 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program element supports continued modernization of the Army's trailer fleets. The funds support continuous product improvements, technology insertion, and new capabilities for tactical trailers.

Current funding will enable feasibility testing of flatbed trailers in the M800 Series family with enhance mobility when towed by tractors and tactical vehicles which also have enhanced mobility. This project supports the Current-to-Future transition path of the Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Feasibility testing of enhanced M800 Series Semi-Trailers | 0 | 213 | 0 |
| Program Integration | 0 | 264 | 0 |
| Program Management | 0 | 84 | 0 |
| Enhanced M800 Series Semi-Trailer | 0 | 385 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 28 | 0 |
| Totals | 0 | 974 | 0 |

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

**February 2004**

| 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 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 | 20283 | 16682 | 1744 | 1762 | 1764 | 1044 | 9510 | Continuing | Continuing |
| OPA 1 D00700 Semi-Trailer LB 40T M870A3 | 2267 | 1928 | 1567 | 582 | 423 | 108 | 0 | 0 | 6875 |
| OPA 1 D01500 Semi-Trailer FB/BB/CONT TR 22 1/2 T M871A3 | 13893 | 8086 | 5931 | 3726 | 3862 | 8928 | 12229 | Continuing | Continuing |

**C. Acquisition Strategy:** Conduct feasibility testing on tactical semi-trailers with enhanced mobility and materiel handling characteristics when towed by improved tractors or tactical vehicles. Candidate systems are the M800 Series semi-trailers (M870/M871/M872). Program Integrator will be competitively selected. The goal is to identify concepts that would enhance a system's overall mobility through either modification of existing equipment or development of new equipment, and identify enhanced transportability and safety concepts through improved or innovative tie-down and lifting concepts.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604633A - AIR TRAFFIC CONTROL** | **586** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 2161 | 2489 | 2088 | 2161 | 1936 | 1384 | 1406 | 0 | 15900 |

**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 current to future 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. MOTS is an effective risk management tool.
Product improvements include the Tactical Terminal Control System (TTCS) and the Air Traffic Navigation, Integration, and Coordination System (ATNAVICS)/ATC Equipment. The TTCS will be improved with modernized equipment that will provide additional capability and improve performance of the overall system. The TTCS will provide enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield. The ATNAVICS will be upgraded with a capability to interface with other ATC equipment. The ATC equipment will have the capability to display near-real-time Situational Awareness (SA) of aircraft that ATNAVICS will provide. This capability will allow the ATC community to share and create one ATC common picture. These systems support the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Program Support | 224 | 330 | 347 |
| MOTS Prototype Development | 1937 | 1164 | 0 |
| TTCS P3I Development | 0 | 935 | 419 |
| TTCS P3I Testing | 0 | 0 | 600 |
| ATNAVICS/ATC Interface | 0 | 0 | 722 |
| Small Business Innovative Research/Small Business Technology Transfer | 0 | 60 | 0 |
| Totals | 2161 | 2489 | 2088 |

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 2199 | 2514 | 2596 |
| Current Budget (FY 2005 PB) | 2161 | 2489 | 2088 |
| Total Adjustments | -38 | -25 | -508 |
| Congressional program reductions | | -23 | |
| Congressional rescissions | -75 | | |
| Congressional increases | | | |
| Reprogrammings | 89 | -2 | |
| SBIR/STTR Transfer | -52 | | |
| Adjustments to Budget Years | | | -508 |

FY 05: Funds realigned ($508k) to higher priority requirements.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| APA AA0050 - Air Traffic Control | 63292 | 59518 | 59449 | 52328 | 62784 | 71640 | 62404 | 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(R3)

**February 2004**

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 | MIPR | Prototype Integration Facility (PIF), Redstone Arsenal, AL | 3502 | 1733 | 1-2Q | 0 | | 0 | | 0 | 5235 | 4472 |
| b . TTCS P3I | TBS | TBS | 0 | 0 | | 995 | 2-3Q | 419 | 1-2Q | 0 | 1414 | 1354 |
| c . ATNAVICS/ATC INTERFACE | TBS | TBS | 0 | 0 | | 0 | | 722 | 2-3Q | Continue | Continue | Continue |
| d . IN-HOUSE SUPPORT | | PM ATC | 0 | 114 | 1-4Q | 204 | 1-4Q | 244 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3502 | 1847 | | 1199 | | 1385 | | 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(R3)

**February 2004**

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 | REDSTONE TECHNICAL TEST CTR (RTTC), REDSTONE ARSENAL, AL | 298 | 204 | 3Q | 1164 | 2Q | 0 | | 0 | 1666 | 1666 |
| b . TTCS TESTING | TBS | TBS | 0 | 0 | | 0 | | 600 | 3Q | 0 | 600 | 600 |
| | | | | | | | | | | | | |
| Subtotal: | | | 298 | 204 | | 1164 | | 600 | | 0 | 2266 | 2266 |

| 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 | | PM ATC | 1125 | 0 | | 0 | | 0 | | 0 | 1125 | 1125 |
| b . MOTS | | PM ATC | 233 | 110 | 1-4Q | 63 | 1-4Q | 0 | | 0 | 406 | 406 |
| c . TTCS P3I | | PM ATC | 0 | 0 | | 63 | 1-4Q | 52 | 1-4Q | 0 | 115 | 115 |
| d . ATNAVICS/ATC INTERFACE | | PM ATC | 0 | 0 | | 0 | | 51 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1358 | 110 | | 126 | | 103 | | Continue | Continue | Continue |
| Project Total Cost: | | | 5158 | 2161 | | 2489 | | 2088 | | Continue | Continue | Continue |

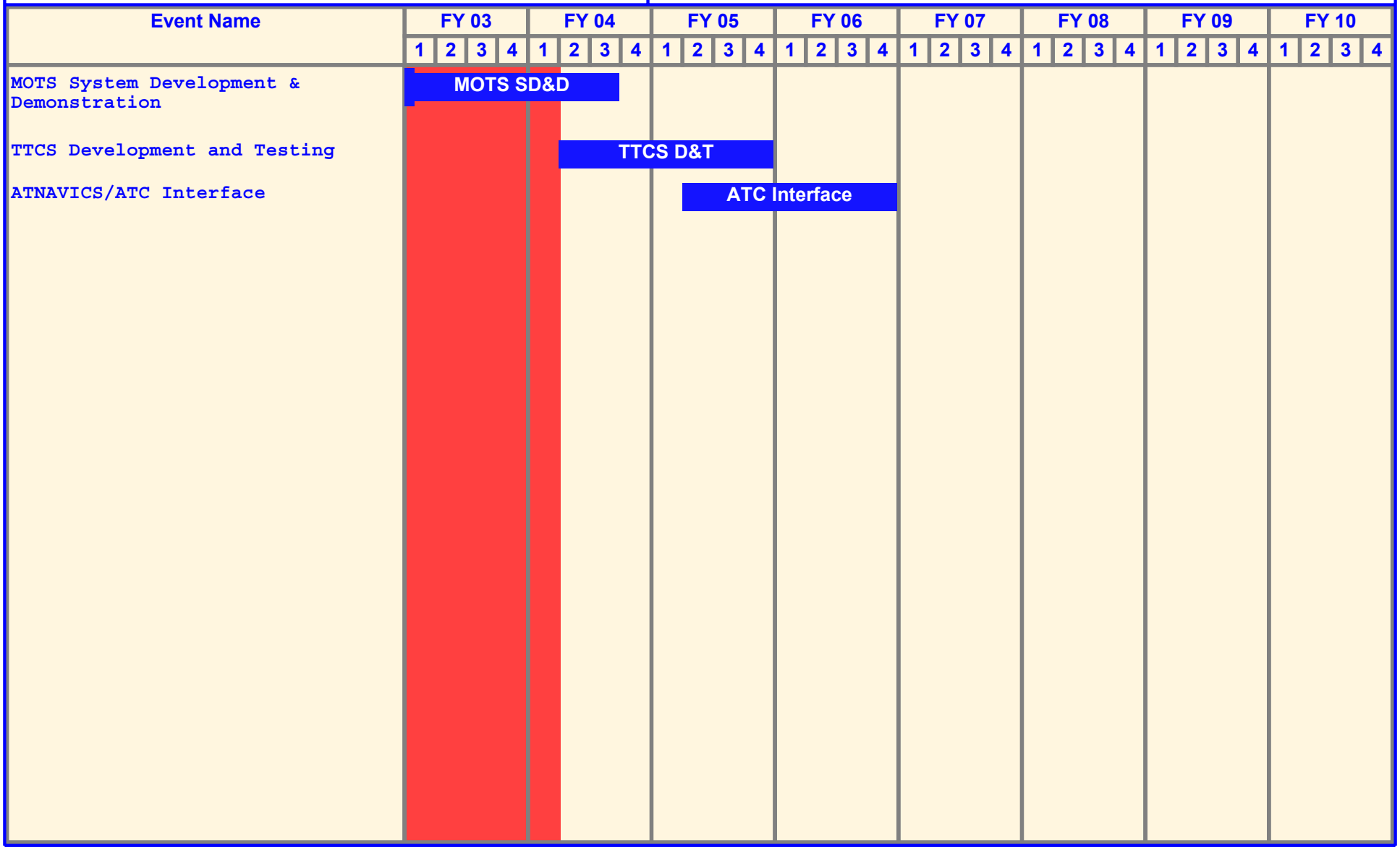
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604633A - AIR TRAFFIC CONTROL**

PROJECT
**586**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604633A - AIR TRAFFIC CONTROL** | **586** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MOTS Prototype Development | 1-4Q | | | | | | |
| MOTS Developmental Testing | 3-4Q | 1-3Q | | | | | |
| TTCS P3I Development | | 2-4Q | 1-4Q | | | | |
| TTCS P3I Testing | | | 3-4Q | | | | |
| ATNAVICS/ATC Interface | | | 2-4Q | 1-4Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604641A - TACTICAL UNMANNED GROUND VEHICLE (TUGV)** | **E47** |

| COST (In Thousands) | FY 2003 Actual | 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 | 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 Robotic Systems Joint Project Office (RS 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. Robotic 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 RS 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 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. | 1146 | 0 | 0 |
| Totals | 1146 | 0 | 0 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 1146 | 0 | 0 |
| Current Budget (FY 2005 PB) | 1146 | 0 | 0 |
| Total Adjustments | 0 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |
| 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 Robotic 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 (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604642A - LIGHT TACTICAL WHEELED VEHICLES** | **E40** |

| COST (In Thousands) | FY 2003 Actual | 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 | 7900 | 18010 | 0 | 0 | 20512 | 13987 | 10169 | Continuing | Continuing |

**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, Ambulance, Shelter Carrier and Armored Armament Carrier. Program is not funded in FY 2005 and FY 2006. 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 also funds Crew Protection Kit (CPK) Development, Hybrid Electric (HE) Development of additional prototypes used in User Evaluation and to support logistics improvements to the HMMWV Family of Vehicles through the use of more recent engine technologies and maintainability improvements, which will result in decreased operational support costs and product improvements. 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 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. HMMWV supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| HMMWV Modernization Development Contract | 2371 | 3100 | 0 |
| Assemble and test up to ten prototype vehicles - HMMWV Modernization | 3170 | 1500 | 0 |
| Support Costs (Engineering/Quality/Matrix Support) | 742 | 785 | 0 |
| HE HMMWV Development | 810 | 4000 | 0 |
| Test/Validate and approve urgent solution to meet near-term armor requirement | 807 | 0 | 0 |
| HMMWV Crew Protection Kit Development Contract | 0 | 4500 | 0 |
| Assemble and test HMMWV Crew Protection Kits | 0 | 2102 | 0 |
| HMMWV Repower Testing and Logistical Improvements | 0 | 1500 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 523 | 0 |
| Totals | 7900 | 18010 | 0 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 7531 | 15700 | 10022 |
| Current Budget (FY 2005 PB) | 7900 | 18010 | 0 |
| Total Adjustments | 369 | 2310 | -10022 |
| Congressional program reductions | | -172 | |
| Congressional rescissions | | | |
| Congressional increases | | 2500 | |
| Reprogrammings | 369 | -18 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -10022 |

FY03 - + 500 Reprogrammed from PE 654804 D461
- 131 Congressional Program Reductions.

FY04 - + 2500 Congressional Plus-up for User Evaluation of Hybrid Electric Technology.
- 172 Congressional Program Reductions.
- 18 Realigned for higher Headquarters priority requirements.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| OPA1 Hi Mob Multi-Purp Whld Veh (D15400) | 344879 | 431350 | 303692 | 191837 | 254301 | 275704 | 395866 | 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.

The Acquisition Strategy for the Hybrid Electric (HE) HMMWV is to award a sole source vehicle integrator contract with a competitive Hybrid Electric design and integration portion.

The Acquisition Strategy for the HMMWV Crew Protection Kit (CPK) is to award an engineering change proposal to the production contract.

The Acquisition Strategy for the Repower Testing and Logistical Improvements is to partner with the Research and Development (R&D) Center in the development and testing of vehicle prototypes.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2371 | 2Q | 3100 | 2Q | 0 | | 0 | 19864 | 19864 |
| 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 | 742 | 1-4Q | 785 | 1-4Q | 0 | | 0 | 2057 | 2057 |
| e . Development Contract - HE HMMWV | SS/CPFF | AM General, Mishawaka, IN | 0 | 779 | 2Q | 3000 | 3Q | 0 | | 0 | 3779 | 3779 |
| f . Development Contract HMMWV CPK | C/CPFF | TBD | 0 | 0 | | 5023 | 3Q | 0 | | 0 | 5023 | 4500 |
| g . Repower Testing & Logistical Improvement | N/A | NAC, Warren, MI | 0 | 0 | | 1500 | 3Q | 0 | | 0 | 1500 | 1500 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15107 | 3892 | | 13408 | | 0 | | 0 | 32407 | 31884 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1856 | 2-4Q | 1500 | 2-4Q | 0 | | 0 | 3611 | 3611 |
| b . Developmental Testing - HMMWV Modernization | MIPR | Yuma Proving Ground, AZ | 10 | 938 | 2-4Q | 0 | | 0 | | 0 | 948 | 948 |
| c . Transportability Testing - HMMWV Modernization | MIPR | Defense Ammunition Center, OK | 19 | 17 | 4Q | 0 | | 0 | | 0 | 36 | 36 |
| d . EMI Testing - HMMWV Modernization | MIPR | White Sands Missile Range, NM | 0 | 278 | 2-4Q | 0 | | 0 | | 0 | 278 | 242 |
| e . LVAD & HSL Certification | MIPR | NATICK | 0 | 81 | 3Q | 0 | | 0 | | 0 | 81 | 81 |
| f . Experimentation Testing - HE HMMWV | MIPR | Ft Benning, GA | 0 | 31 | 2-4Q | 0 | | 0 | | 0 | 31 | 31 |
| g . Developmental Testing - HE HMMWV | MIPR | ATC, Aberdeen, MD | 0 | 0 | | 1000 | 4Q | 0 | | 0 | 1000 | 1000 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . Test/Validate Near Term Armor Protection | MIPR | ATC, Aberdeen, MD | 0 | 807 | | 0 | | 0 | | 0 | 807 | 807 |
| i . Developmental Testing - HMMWV CPK | MIPR | ATC, Aberdeen, MD | 0 | 0 | | 2102 | 4Q | 0 | | 0 | 2102 | 2102 |
| | | | | | | | | | | | | |
| Subtotal: | | | 284 | 4008 | | 4602 | | 0 | | 0 | 8894 | 8858 |

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 | 7900 | | 18010 | | 0 | | 0 | 41301 | 40742 |

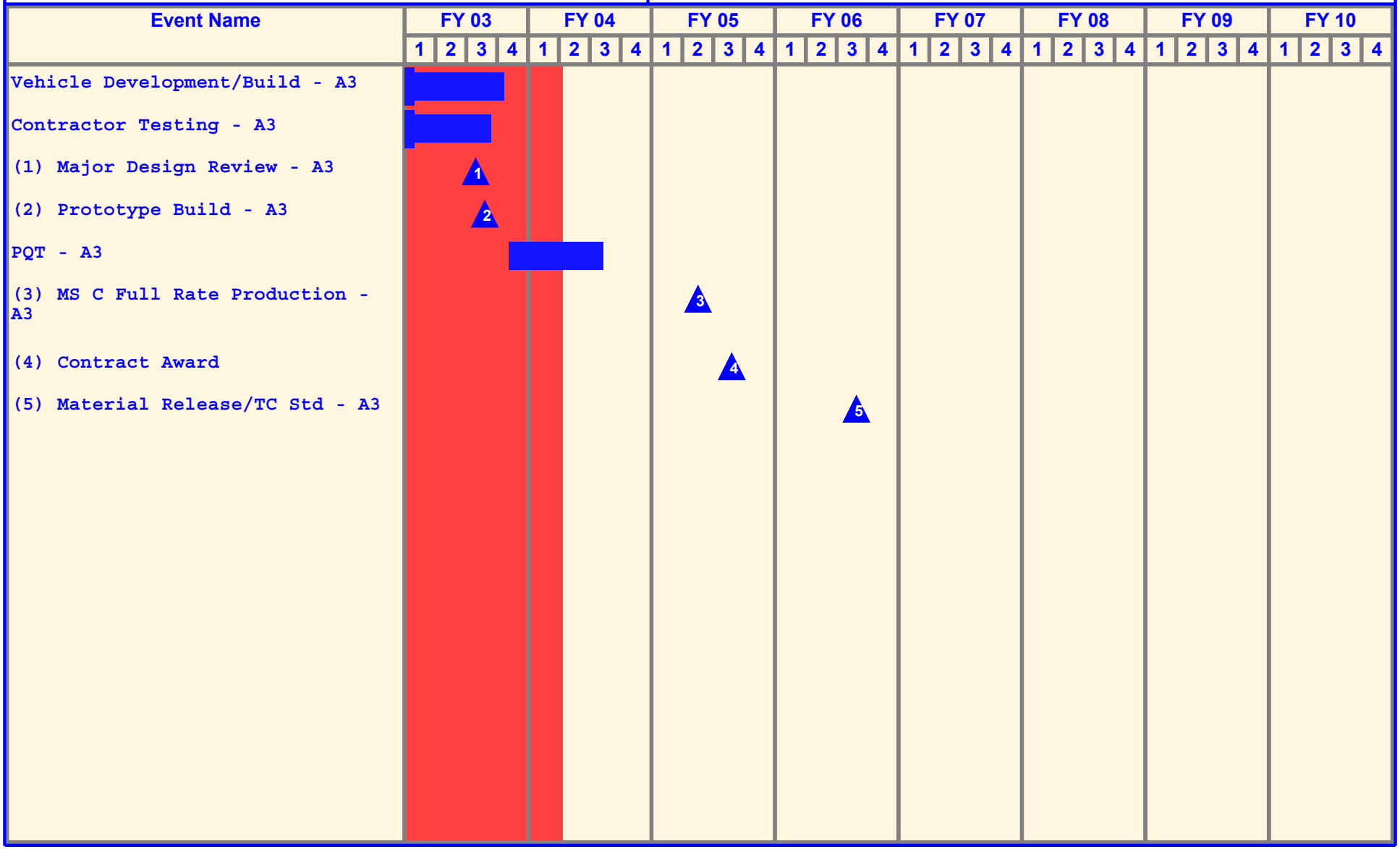
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604642A - LIGHT TACTICAL WHEELED VEHICLES**

PROJECT
**E40**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604642A - LIGHT TACTICAL WHEELED VEHICLES** | **E40** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Test & Evaluation - HMMWV Modernization (A3) | 4Q | 1-3Q | | | | | |
| Milestone C - Full Rate Production (A3) | | | 2Q | | | | |
| Award Production Contract - HMMWV Mod (A3) | | | 3Q | | | | |
| Material Release/TC Standard (A3) | | | | 3Q | | | |
| Award Development Contract - Crew Protection Kit | | 3Q | | | | | |
| Developmental Test & Evaluation - HMMWV CPK | | 4Q | | | | | |
| Hybrid Electric Development Contract | | 3Q | | | | | |
| Hybrid Electric Testing | | 4Q | | | | | |
| Repower Test and Logistical Improvements Contract | | 3Q | | | | | |
| Repower Testing | | 4Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 159175 | 1423146 | 2700455 | 3791837 | 3334655 | 2161868 | 1558460 | Continuing | 15129595 |
| 470 | FUTURE COMBAT SYSTEM - SDD | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| F59 | COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | Continuing | 459755 |
| F60 | FAMILY OF SYSTEMS, ANAL&INT | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | Continuing | 874746 |
| F61 | GOVERNMENT SUPPORT COSTS | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | Continuing | 2822944 |
| F62 | MISSION EQUIPMENT PLATFORMS | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | Continuing | 3443026 |
| F63 | NETWORK SOFTWARE | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | Continuing | 1761406 |
| F64 | OTHER CONTRACT COSTS | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | Continuing | 1453316 |
| F65 | S OF S ENGR & PROG MGT | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | Continuing | 1915890 |
| F66 | S OF S TEST AND EVALUATION | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | Continuing | 446248 |
| F67 | SUPPORTABILITY | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | Continuing | 214760 |
| F68 | SYS INTEGRATION MGT | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | Continuing | 214178 |
| F69 | TRAINING | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | Continuing | 113983 |
| F70 | NLOS LAUNCH SYSTEM | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | Continuing | 1250168 |
| F71 | JOINT MILITARY INTEL PROG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**A. Mission Description and Budget Item Justification:** Future Combat Systems (FCS) will operate as a System of Systems (SoS) that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action (UA) (UA is analogous to a brigade). 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 UA to connect to the Unit of Employment (UE) (UE is analogous to a division), joining capabilities, and national assets making these capabilities available to the small units of the UA.

FCS enables the networked UA to develop the situation in and out of contact, set conditions, maneuver to positions of advantage to close with and destroy the enemy through standoff attack and combat assault as articulated in the Future Force UA Operations and Organizational (O&O) plan.

The FCS program is contained in two Program Elements (PEs): Non-Line of Sight - Cannon (NLOS-C) and Armored Systems Modernization (ASM). The NLOS-C PE contains the development effort associated with NLOS-C unique work and all Manned Ground Vehicles (MGV) common components. PE ASM contains the development effort for the balance of the MGVs, Unmanned Ground Vehicles (UGVs), Unmanned Air Vehicles (UAVs), Non-line of Sight - Launch System

(NLOS-LS), and SoS development efforts including network, integration, and software.

Army transformation is grounded in the operational framework of joint doctrine and concepts for future joint and combined operations. Transforming to the Future Force and developing the FCS is the Army's number one acquisition priority. The FCS family of systems (FoS) is being designed with the joint fight in mind.

FCS is comprised of a family of advanced, networked air and ground based maneuver, maneuver support, and sustainment systems that will include manned and unmanned platforms which are networked via a Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) architecture, including networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilities. This will enable FCS to achieve improved situational understanding and operations at a level of synchronization heretofore unachievable.

The outcome of the FCS FY04 budget justification brief of 24 November 2003 to the four defense committees was to pursue formal approval of the Army reprogramming request to create the FCS program using the Work Breakdown Structure (WBS) and the Earned Value Management System (EVMS).

Based upon discussions with the staffers of the four defense committees, the R Forms will now be based on the WBS program management structure. This will provide Congress the same program baseline data for budget justification, as the Program Manager uses for program management. The two PEs and fourteen projects reflect the WBS reporting structure that will be provided to Congress quarterly. A full description of the projects can be found in the project level R2 form.

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

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 239213 | 1701331 | 2458373 |
| Current Budget (FY 2005 PB) | 159175 | 1423146 | 2700455 |
| Total Adjustments | -80038 | -278185 | 242082 |
| Congressional program reductions | -3179 | -12667 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -70014 | | |
| SBIR/STTR Transfer | -6845 | | |
| Adjustments to Budget Years | | -265518 | 242082 |

Adjustments in FY2004 and FY2005 are based upon the creation of a new Program Element (PE) for NLOS-C as directed by Congress.
Adjustments to Budget Years:
FY04 - Decreases are based on the separation of the NLOS-C Program Element (PE) from within this PE as well as inflation adjustments.
FY05 - Increase of $242,082 to fund to the Army Cost Position (ACP). This increase will allow the FCS program to begin Army transformation this decade.

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **0604645A** |

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

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **470** |

| COST (In Thousands) | FY 2003 Actual | 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 | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |

**A. Mission Description and Budget Item Justification:** The Future Combat Systems (FCS) FY03 budget was used for the following activities:

a. Milestone B support.

b. System Development and Demonstration (SDD) contract negotiation and award.

c. First quarter of SDD execution which included System of Systems (SoS) and Family of Systems (FoS) engineering and requirements analysis (decomposing Operational Requirement Document (ORD) and Operations and Organizational (O&O) plan into performance specifications, the development of the System of Systems Common Operating Environment (SoSCOE), and modeling and simulation developed to support trade studies.

This system supports the Future Force transition path of the Tansformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| SoS Engineering and Program Management | 59795 | 0 | 0 |
| FoS Analysis and Integration | 29651 | 0 | 0 |
| Network Software | 3458 | 0 | 0 |
| Systems Integration Management | 0 | 0 | 0 |
| Supportability | 1738 | 0 | 0 |
| Training | 1135 | 0 | 0 |
| SoS Test and Evaluation | 2648 | 0 | 0 |
| Other Contract Costs - includes termination liability | 31398 | 0 | 0 |
| Government PMO and OGA - including taxes and test costs | 29175 | 0 | 0 |
| Common Components | 177 | 0 | 0 |
| Totals | 159175 | 0 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **470** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 238538 |
| 603854A F47 Non-Line of Sight - Cannon | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A F49 Non-Line of Sight-Launch System | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's MS B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved and signed by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance into System Development and Demonstration (SDD) for the Army's FCS Program. It also approved the strategy of maintaining a single funding line (Program Element (PE)), a shortened Acquisition Life Cycle, and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's cost estimates.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Network Software | OTA | The Boeing Company, Seattle WA | 0 | 3458 | 3Q | 0 | | 0 | | 0 | 3458 | 0 |
| b . FoS Analysis and Integration | OTA | The Boeing Company, Seattle Wa | 0 | 29651 | 3Q | 0 | | 0 | | 0 | 29651 | 0 |
| c . Common Components | OTA | The Boeing Company, Seattle WA | 0 | 177 | 3Q | 0 | | 0 | | 0 | 177 | 0 |
| d . System of Systems Engineering & Program Management (Contractor) | OTA | The Boeing Company, Seattle WA | 0 | 59795 | 3Q | 0 | | 0 | | 0 | 59795 | 0 |
| e . Supportability | OTA | The Boeing Company, Seattle WA | 0 | 1738 | 3Q | 0 | | 0 | | 0 | 1738 | 0 |
| f . Training | OTA | The Boeing Company, Seattle WA | 0 | 1135 | 3Q | 0 | | 0 | | 0 | 1135 | 0 |
| g . SoS Test and Evaluation | OTA | The Boeing Company, Seattle WA | 0 | 2648 | 3Q | 0 | | 0 | | 0 | 2648 | 0 |
| h . Other contract Costs - Includes termination liability | OTA | The Boeing Company, Seattle WA | 0 | 31398 | 3Q | 0 | | 0 | | 0 | 31398 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**470**

| 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 | 130000 | | 0 | | 0 | | 0 | 130000 | 0 |

Remarks: Current FY03 totals based on November 03 CPR data.

| 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 PMO and OGA | | | 0 | 29175 | | 0 | | 0 | | 0 | 29175 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 29175 | | 0 | | 0 | | 0 | 29175 | 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 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Core Program Support and OGA's | Various | PM FCS | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 159175 | | 0 | | 0 | | 0 | 159175 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **470** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Acquisition Strategy Report | 2Q | | | | | | |
| Operational Requirements Document (ORD) | 2Q | | | | | | |
| System Development & Demonstration (SDD) Solicitation | 2Q | | | | | | |
| MS B | 3Q | | | | | | |
| SDD Contract Award for FCS | 3Q | | | | | | |
| Organizational & Operational (O&O) | 4Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F59** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F59 | COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | Continuing | 459755 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the program Work Breakdown Structure (WBS 1.1.2.3.2). Common components are developed and produced for inclusion into more than one vehicle platform. This includes contractor development engineering, prototypes and integration and assembly of common components. This project reflects the budget breakout negotiated with the Congressional staffers from the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees.

The efffort in this project ensures the following:

- Definition, development, procurement, fabrication, integration, and test of common subsystems.

- Definition, documentation, and management of subsystem interfaces in an open architecture design.

- Verification of functions and performance characteristics and requirements of common and mission equipment subsystem prototypes through tests. Functional and performance demonstration through modeling and simulation of the end item will be used, along with prototypes, to validate functionality and performance requirements.

Since all ground common components for manned vehicles are included in the Non-Line of Sight - Cannon (NLOS-C) PE, this project only contains the following common components: Sensors (air), communication (air), autonomous navigation system (ANS).

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Communication System - Air | 0 | 19800 | 33126 |
| Sensors Air | 0 | 3000 | 29426 |
| Autonomous Navigation | 0 | 6100 | 41669 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Common Vehicle Utility Subsystem | 0 | 3648 | 10942 |
| Totals | 0 | 32548 | 115163 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F59**

| 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 . Communication System - Air | OTA | The Boeing Company - Seattle, Washington - See remark 1 | 0 | 0 | | 19800 | 1-3Q | 33126 | 1-3Q | 0 | 52926 | 0 |
| b . Sensors - Air | OTA | The Boeing Company - Seattle, Washington - See remark 2 | 0 | 0 | | 3000 | 1-3Q | 29426 | 1-3Q | 0 | 32426 | 0 |
| c . Autonomous Navigation | OTA | The Boeing Company - Seattle, Washington See remark 3 | 0 | 0 | | 6100 | 1-3Q | 41669 | 1-3Q | 0 | 47769 | 0 |
| d . Common Vehicle Utility Subsystem | OTA | The Boeing Company - Seattle, Washington See remark 4 | 0 | 0 | | 3648 | 1-3Q | 10942 | 1-3Q | 0 | 14590 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 32548 | | 115163 | | 0 | 147711 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for in Program Element (PE) 0604645A, Project 61, Government Support Cost.

Remark 1 - Subcontractor: BAE Systems IESI-Nashua, NH
Remark 2 - Subcontractor: Northrop Grumman Electronic Systems Division-Linthicum, MD
Remark 3 - Subcontractor: GD Robotics Systems-Westminster, MD
Remark 4 - Subcontractors: United Defense Limited Partnership-Minneapolis, MN and General Dynamics Land Systems-Sterling Heights, MI. Note: This cost is a NLOS-C cost because NLOS-C is the lead system. However, due to database reductions in the NLOS-C PE, this contractual effort was funding from the FCS PE.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F59**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F59**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 32548 | | 115163 | | 0 | 147711 | 0 |

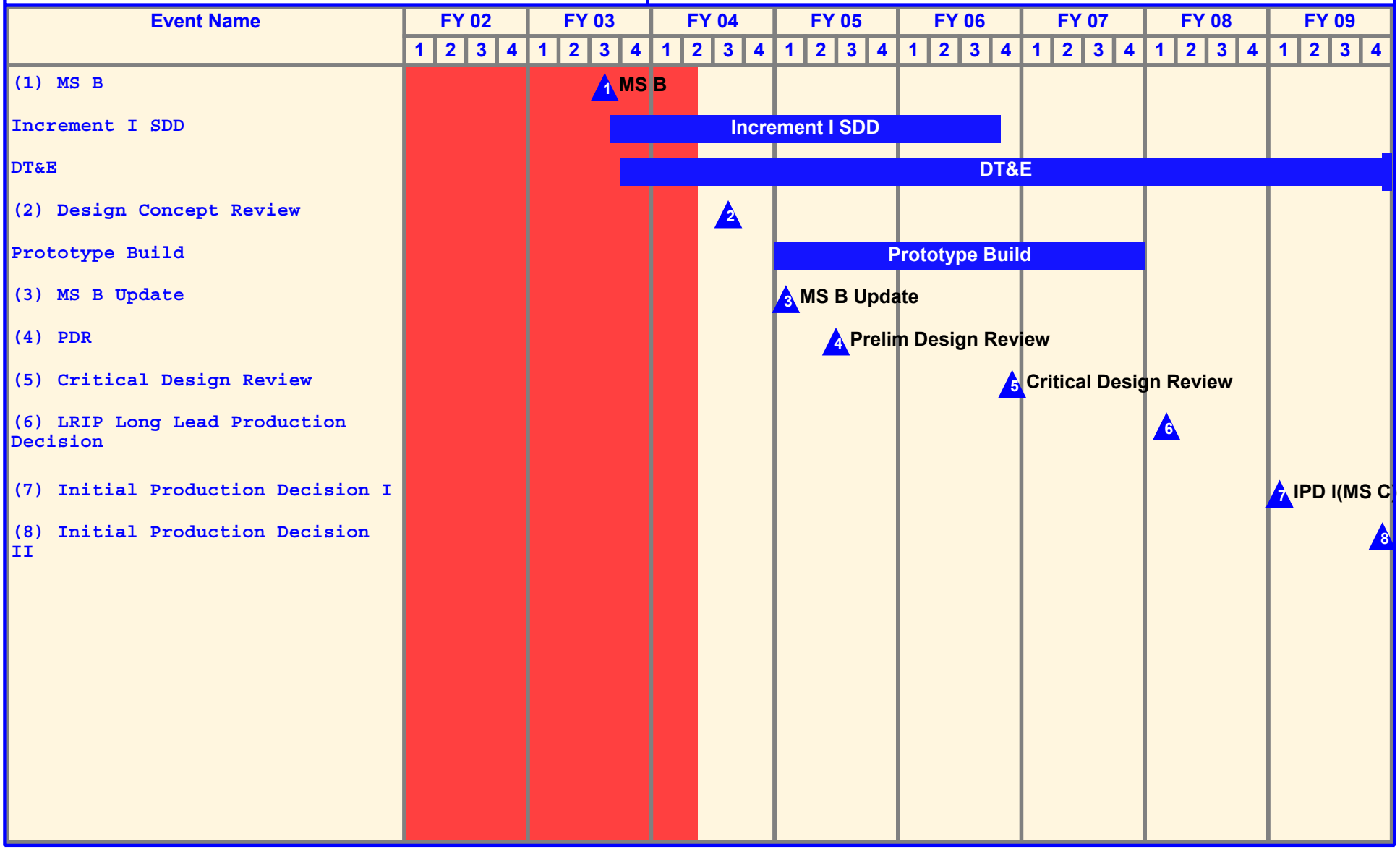
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F59**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F59** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F60** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F60 | FAMILY OF SYSTEMS, ANAL&INT | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | Continuing | 874746 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Program Work Breakdown Structure (WBS 1.1.2.1).

FCS Family of Systems (FoS) analysis and integration supports advanced networked air and ground based maneuver, maneuver support, and sustainment systems that include manned and unmanned systems. This effort includes design analysis/trade studies, and determination of requirements flow down within the context of the FoS in order to maintain baseline performance, functional, physical, and logical integration. This project reflects the budget breakout negotiated with Congressional staffers from all four defense committees. The same level of management data will be reviewed quarterly with the four defense committees. This project includes the following:

FoS Management - Consists of the performance and design analysis, trades and requirements flow down within the context of the FoS to maintain baseline performance plus functional, physical, and logical integration. It also involves developnent and maintenance of a dynamic trace linking the System of Systems (SoS) specification to FoS specification and FoS systems' designs.

FoS Analysis - Consists of performance analysis and trade studies for the FoS to ensure that the supporting Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) network meets the SoS requirements. It also includes analysis of requirements and designs to balance the following system operational performance parameters: responsiveness, deployability, agility, and versatility, lethality, survivability, sustainability, training, interoperability, availability, and vulnerability. This includes Cost as an Independent Variable (CAIV), producibility, Manpower and Personnel Integration (MANPRINT), testability, and safety in the analysis/trade process.

FoS Technical Baseline Management Controls - Management and control of the FoS technical baseline including definition and conduct of FoS level trade studies, requirements definition and allocation, and interface control for both hardware configuration items (HWCI) and computer software configuration items (CSCI) across the FoS and from the SoS to Complementary and associated programs. It involves allocation of performance, functional, and non-functional requirements from the SoS to the FoS systems through preparation of a series of Prime Item Development Specifications (PIDS). It also involves the identification and management of the technical interface requirements among FCS FoS components and between the FoS and Complementary and associated programs. In additiona it involves identification and integrational interfaces to systems external to the FCS Unit of Action (UA) (current, higher echelon, joint, coalition, and other Government & non-Government agencies) and the internal control of FoS system-to-system interfaces. Configuration Management (CM) of the FoS is performed in accordance with SoS CM guidance including CM custodial responsibility for FCS to

Complementary and associated programs Interface Control Documents (ICDs) as defined in Complementary and associated programs Government Memorandum of Agreement (MOA)/Subordinate Memorandum of Agreement (SMOAs). The management and maintenance of a performance baseline of system and subsystem attributes is necessary for the SoS/FoS analysis, modeling, and simulation, consistent with the Army FCS UA systems book.

Systems Integration Labs (SILs) - This project includes the management, design, development, use, and maintenance of a SoS Integration Laboratory (SoSIL) for use in SoS development, integration, and test. The SILs establish system emulators and simulators at supplier sites as well as framework and detailed interface definitions to integrate simulators across the dispersed sources/users, including interfacing with Complementary and associated programs hardware, software, and SILs in accordance with SoS test plans. This effort also provides interface to the Department of Defense (DOD) Joint Distributed Engineering Plant for interoperability testing and interface to the Army technical test capabilities.

This system supports the future force transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Family of System (FOS) Management | 0 | 22984 | 12434 |
| (FOS) Analysis | 0 | 2907 | 13732 |
| FOS Technical Baseline & Control | 0 | 84078 | 108671 |
| System Integrated Laboratory (SIL) | 0 | 63750 | 1066 |
| Totals | 0 | 173719 | 135903 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based

on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F60**

| 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 . FoS Management | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 22984 | 1-3Q | 12434 | 1-3Q | 0 | 35418 | 0 |
| b . FoS Analysis | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 2907 | 1-3Q | 13732 | 1-3Q | 0 | 16639 | 0 |
| c . FoS Technical Baseline Management & Control | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 84078 | 1-3Q | 108671 | 1-3Q | 0 | 192749 | 0 |
| d . SIL | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 63750 | 1-3Q | 1066 | 1-3Q | 0 | 64816 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 173719 | | 135903 | | 0 | 309622 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with Congresssional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for in the Program Element (PE) 0604645A, Project 61, Government Support Cost.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F60**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F60**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

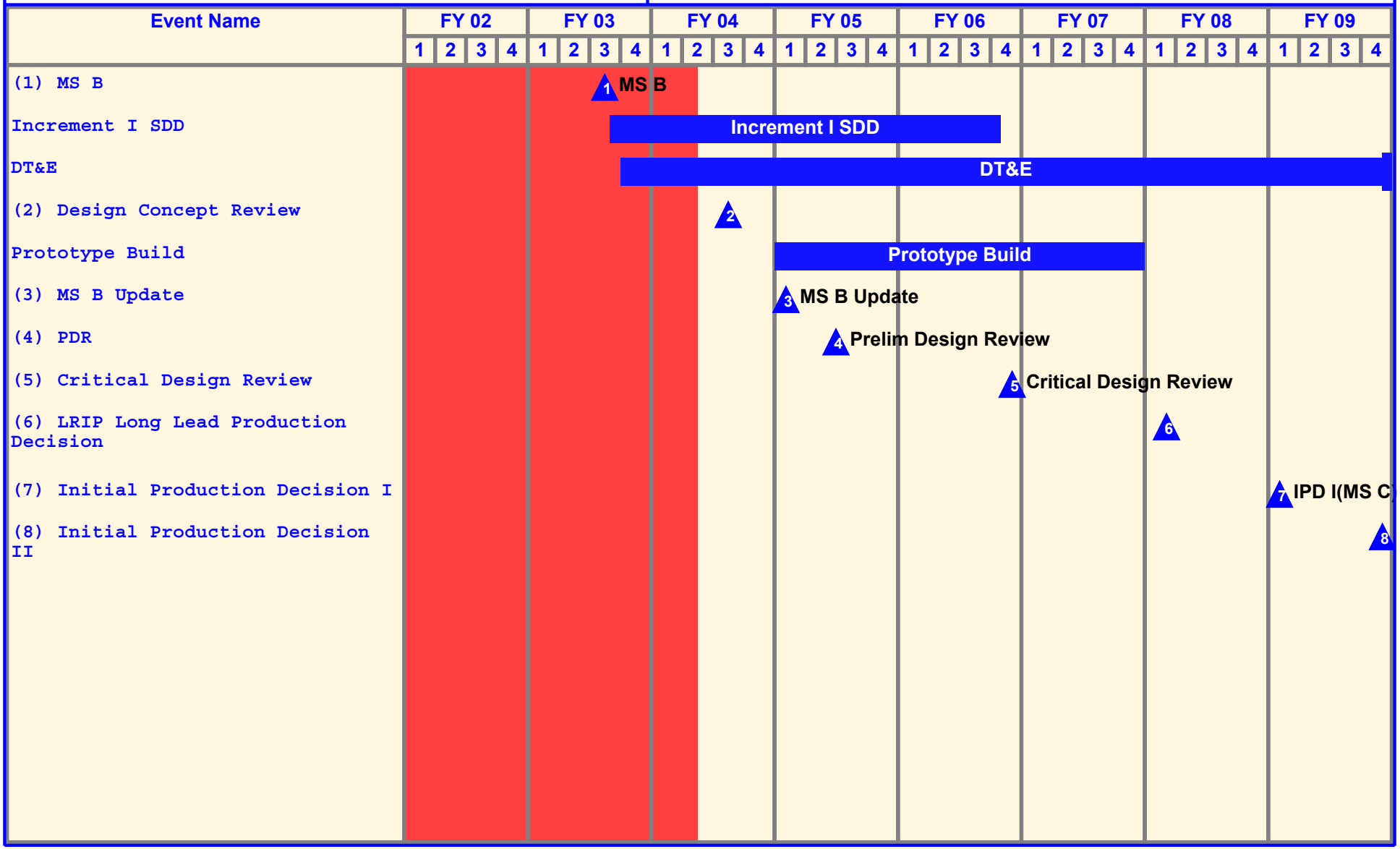
Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 173719 | | 135903 | | 0 | 309622 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604645A - Armored Systems Modernization (ASM)-Eng. Dev. | F60 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F60** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F61** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F61 | GOVERNMENT SUPPORT COSTS | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | Continuing | 2822944 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

Government Support Costs include funding for government personnel to include labor, travel, supplies, and other support costs (support contractors, Automted Data Procressing (ADP), supplies, and equipment). This project also includes funding for government testing to include personnel, test execution, ammunition and expendables, infrastructure development, procurement of unique test instrumentation, development of an Army wide inter-range distributed test network, and Government modeling and simulation Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) test bed, and Advanced Collaborative Environment (ACE) Government user fees, expediting Complementary Program (schedule risk reduction) for JTRS Cluster 5, waveform for the JTRS Cluster 5, SECOMP-I, and JTRS network datalink. This project also reserves funding for all the potential FCS Small Business Innovative Research (SBIR), Small Business Technology Transfer Program (STTR).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| PM Personnel | 0 | 50612 | 52727 |
| System of System Personnel | 0 | 37001 | 38547 |
| Travel | 0 | 14848 | 15466 |
| Other Support Costs | 0 | 25354 | 50000 |
| ACE Support | 0 | 10587 | 19430 |
| Modeling and Symulation | 0 | 9850 | 18470 |
| Test Support | 0 | 63820 | 193750 |
| GFX/Complementary Programs | 0 | 44000 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR taxes) | 0 | 49656 | 100360 |
| Totals | 0 | 305728 | 488750 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F61** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F61**

| 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 . GFX - Complementary Programs | Various | Various | 0 | 0 | | 44000 | 1-3Q | 0 | | 0 | 44000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 44000 | | 0 | | 0 | 44000 | 0 |

Remarks: All FCS funding reserved for statutory reductions (SIBR/STTR) are accounted for in this "Government Support Cost" project.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

| 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 Personnel | | Various | 0 | 0 | | 50612 | | 52727 | | 0 | 103339 | 0 |
| b . SoS Personnel | | Various | 0 | 0 | | 37001 | | 38547 | | 0 | 75548 | 0 |
| c . Travel | | Various | 0 | 0 | | 14848 | | 15466 | | 0 | 30314 | 0 |
| d . Other Support Cost | | Various | 0 | 0 | | 25354 | | 50000 | | 0 | 75354 | 0 |
| e . ACE Support | | Various | 0 | 0 | | 10587 | | 19430 | | 0 | 30017 | 0 |
| f . Anticipate Witholds (4%)* | | | 0 | 0 | | 49656 | | 100360 | | 0 | 150016 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F61**

| 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: | | | 0 | 0 | | 188058 | | 276530 | | 0 | 464588 | 0 |

Remarks: * Anticipated withholds calculated based on anticipated 4% SIBR, STTR historical reductions. FY03 reduced by (17690) and FY04 reduced by (27564) for database reductions for inflation and other OSD reductions (approximately 1.4%). Includes all governmental support cost for PE 0604645 and PE 0604647. PM SoS Personnel includes both government and SETA support.

| 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 | 0 | 0 | | 63820 | | 193750 | | 0 | 257570 | 0 |
| b . Modeling & Simulation | | Various | 0 | 0 | | 9850 | | 18470 | | 0 | 28320 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 73670 | | 212220 | | 0 | 285890 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F61**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 0 | 0 | | 305728 | | 488750 | | 0 | 794478 | 0 |

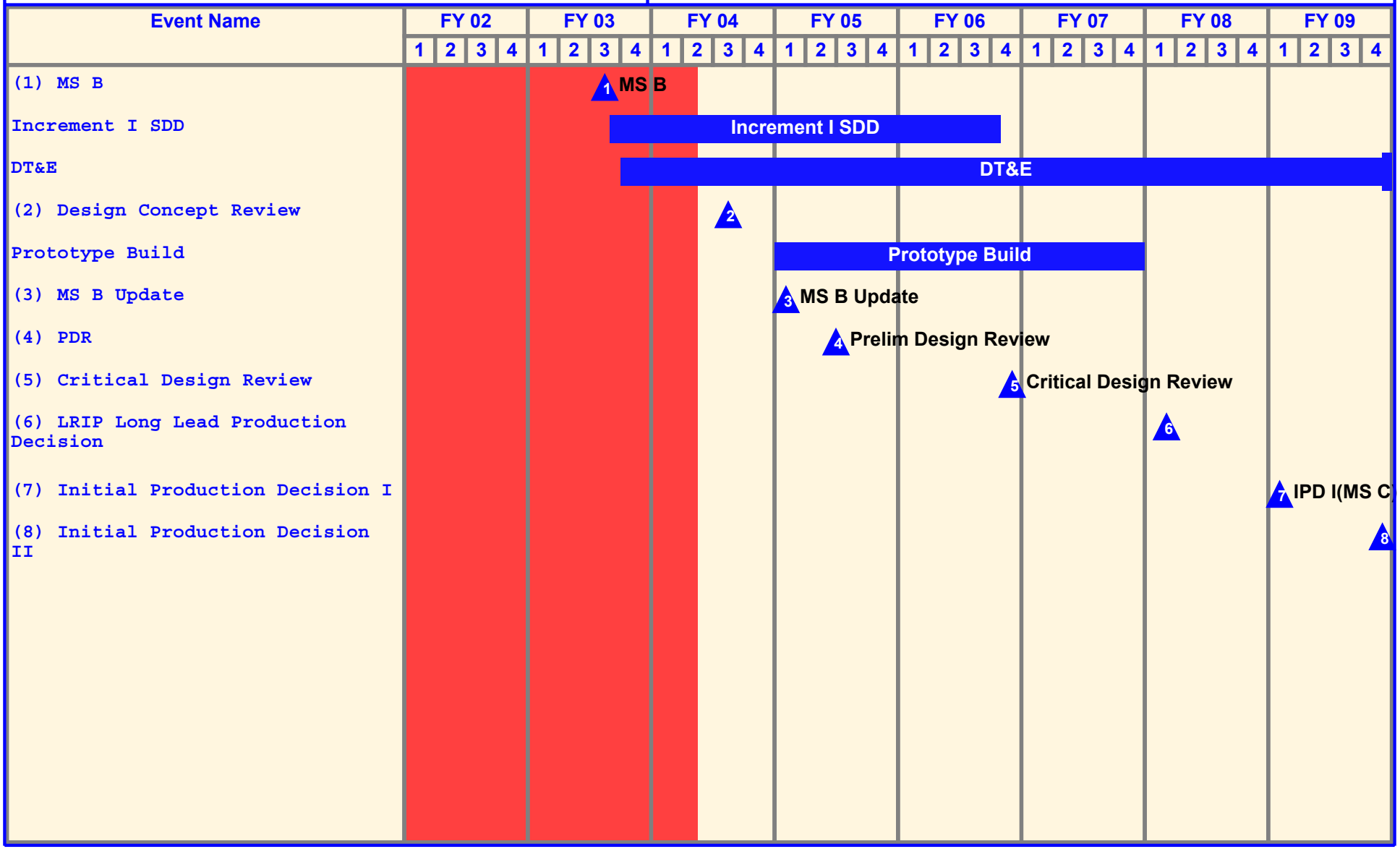
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F61**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F61** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award Fee for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes 1Q 05 | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manfacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F62** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F62 | MISSION EQUIPMENT PLATFORMS | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | Continuing | 3443026 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Work Breakdown Structure (WBS 1.1.2.3.3). This project covers all FCS platforms other than Non-Line of Sight - Cannon (NLOS-C) and includes the contractor development, engineering, prototype procurement and integration assembly of all variant vehicle platforms and associated costs to include development of unique mission equipment. Platforms include: Infantry Carrier Vehicle (ICV), Recon and Surveillance Vehicle (RSV), Command and Control Vehicle (C2V), Mounted Combat System (MCS), Non-Line of Sight Mortar (NLOS-M), Medical Vehicle (MV), Armed Robotic Vehicle (ARV), Small Unmanned Ground Vehicle (SUGV), Multi-function Utility/Logistics Equipment (MULE), Unmanned Aerial Vehicles (UAVs), and Unattended Ground Sensors (UGS). This project reflects the budget breakout discussions with Congressional staffers from the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees.

Included in this project is developmental and engineering effort for requirement analysis, specification determination and justification, detail design packages for integration of common and mission equipped end items. The focus is on a producible, reliable, sustainable, maintainable, and affordable design. Also included are subsystem prototypes, models, and/or simulations as necessary to support development as well as tests and demonstrations.

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Infantry Carrier Vehicle (ICV) | 0 | 31100 | 69200 |
| Reconnaissance and Surveillance Vehicle (RSV) | 0 | 25300 | 64620 |
| Mounted Combat System (MCS) | 0 | 26100 | 164680 |
| Non-Line of Sight - Mortar (NLOS-M) | 0 | 12100 | 51610 |
| Armed Robotic Vehicle (ARV) | 0 | 4800 | 12604 |
| Multi-function Utility/Logistics and Equipment Vehicle (MULE) | 0 | 5600 | 55518 |
| Class 1 Unmanned Aerial Vehicle (UAV) | 0 | 1000 | 20460 |
| Class 4 Unmanned Aerial Vehicle (UAV) | 0 | 2286 | 71156 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Unattended Ground Sensors (UGS) | 0 | 4000 | 29544 |
| Command and Control Vehicle (C2V) | 0 | 19900 | 58740 |
| Medical Vehicle (MV) | 0 | 1600 | 9200 |
| Small Unmanned Ground Vehicle (SUGV) | 0 | 5500 | 27298 |
| Totals | 0 | 139286 | 634630 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F62**

| 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 . Unattended Ground Sensors (UGS) | | The Boeing Company - Seattle, Washington - See remark 1 | 0 | 0 | | 4000 | 1-3Q | 29544 | 1-3Q | 0 | 33544 | 0 |
| b . Command and Control Vehicle ( C2V) | | The Boeing Company - Seattle, Washington - See remark 2 | 0 | 0 | | 19900 | 1-3Q | 58740 | 1-3Q | 0 | 78640 | 0 |
| c . Medicle Vehicle (MV) | | The Boeing Company - Seattle, Washington - See remark 3 | 0 | 0 | | 1600 | 1-3Q | 9200 | 1-3Q | 0 | 10800 | 0 |
| d . Small Unmanned Ground Vehicle (SUGV) | | The Boeing Company - Seattle, Washington - See remark 4 | 0 | 0 | | 5500 | 1-3Q | 27298 | 1-3Q | 0 | 32798 | 0 |
| e . Infantry Carrier Vehicle (ICV) | | The Boeing Company - Seattle, Washington - See remark 3 | 0 | 0 | | 31100 | | 69200 | 1-3Q | 0 | 100300 | 0 |
| f . Reconnaissance and Surveillance Vehicle (RSV) | | The Boeing Company - Seattle, Washington - See remark 2 | 0 | 0 | | 25300 | 1-3Q | 64620 | 1-3Q | 0 | 89920 | 0 |
| g . Mounted Combat System (MCS) | | The Boeing Company - Seattle, Washington - See remark 2 | 0 | 0 | | 26100 | 1-3Q | 164680 | 1-3Q | 0 | 190780 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F62**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . Non-Lon of Sight - Mortar (NLOS-M) | | The Boeing Company - Seattle, Washington - See remark 5 | 0 | 0 | | 12100 | 1-3Q | 51610 | 1-3Q | 0 | 63710 | 0 |
| i . Armed Robotic Vehicle (ARV) | | The Boeing Company - Seattle, Washington - See remark 3 | 0 | 0 | | 4800 | 1-3Q | 12604 | 1-3Q | 0 | 17404 | 0 |
| j . Class 1 Unmanned Aeriel Vehicle (UAV) | | The Boeing Company - Seattle, Washington | 0 | 0 | | 1000 | 1-3Q | 20460 | 1-3Q | 0 | 21460 | 0 |
| k . Class 4 Unmanned Aeriel Vehicle (UAV) | | The Boeing Company - Seattle, Washington - See remark 6 | 0 | 0 | | 2286 | 1-3Q | 71156 | 1-3Q | 0 | 73442 | 0 |
| l . Multi-function Utility/Logistics and Equpment Vehicle (MULE) | | The Boeing Company - Seattle, Washington - See remark 7 | 0 | 0 | | 5600 | 1-3Q | 55518 | 1-3Q | 0 | 61118 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 139286 | | 634630 | | 0 | 773916 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline if finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for in the Program Element 0604645A, Project 61, Government Support Costs. Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).
Remark 1: Subcontractor: Textron Systems, Intelligent Battlefield Systems Division - Willington, MA
Remark 2: Subcontractor: General Dynamics - Sterling Heights, MI
Remark 3: Subcontractor: United Defense Limited Partnership - Santa Clara, CA
Remark 4: Subcontractor: iRobot Corporation - Burlington MA
Remark 5: Subcontracotr: United Defense - Minneapolis, MN
Remark 6: Subcontractor: Northrop Grumman Systems Corporation - San Diego, CA
Remark 7: Subcontractor: Lockheed Martin Missile & Fire Control - Grand Praire, TX

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F62**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F62**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

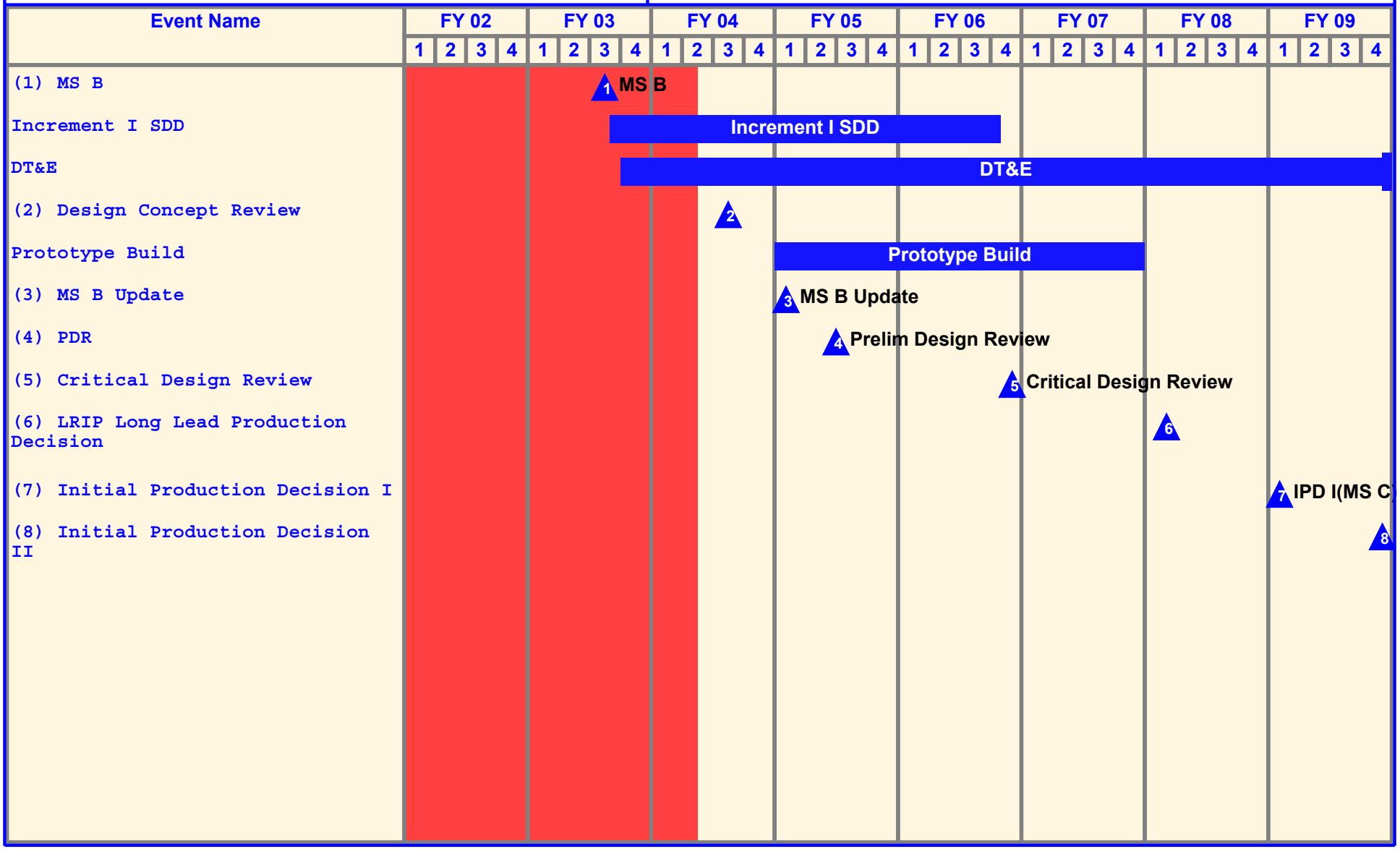
Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 139286 | | 634630 | | 0 | 773916 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604645A - Armored Systems Modernization (ASM)- Eng. Dev. | F62 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F62** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes 1Q 05 | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F63** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F63 | NETWORK SOFTWARE | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | Continuing | 1761406 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Work Breakdown Structure (WBS 1.1.2.2). The Network Software is the System of Systems (SoS) engineering effort to transform the FCS Operational Requirements Document (ORD) into a networked SoS architecture. It includes the conduct of system reviews, trade studies, and architectural design of the SoS network including requirements flowdown, configuration management, SoS software requirements, architecture, and design reviews to ensure network integration across all of the Unit of Action (UA) Battlefield Functional Areas to meet FCS requirements and SoS integration. This project reflects the budget breakout discussed with the Congressional staffers from the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees. This project includes:

Network software management - This effort represents the contractors' management of all of this project's efforts and cost accounts.

Network software analysis and integration - Definition, design, procurement, construction, integration, and testing of the elements of the distributed network system across the FoS in accordance with the Software Development Plan (SDP), SoS specification, Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), and applicable segment and subsystem specifications. The distributed network consists of the following elements: a distributed information management backbone, communications applications and interfaces, Intelligence, Surveillance and Reconnaissance (ISR) applications and interfaces, command and control applications and interfaces, and training and supportability applications.

Command and control - Definition, development, procurement, fabrication, integration, and testing of the distributed command and control application software, including soldier interfaces, mission planning, situational awareness and understanding, and battle command for the FCS UA.

Information management - Definition and development of the information management backbone and application interface structure for implementation of the distributed network.

System of Systems Common Operating Environment (SoSCOE) - Definition, planning, and management the Software Engineering (SE) processes to transform the FCS ORD requirements into an acceptable, testable, and verifiable SoS solution.

Fusion - Definition, development, procurement, fabrication, integration, and testing of the distributed ISR elements and application software, including soldier interfaces, common sensor interface, Level 1 fusion with organic and non-organic sensor feeds, and sensor data management for the FCS.

Communication system software - Definition, integration, development, coding, and qualification of the communications network. Includes: requirements development, traceability and management, functional flow analysis and update to the requirements database, technical trade studies and analyses.

Unmanned vehicle control software - Distributed control of unmanned platforms.

Weapons management control software - Distributed control of network fires.

ACE applications - The ACE applications that reside with the soldier and on the platforms for reachback.

Embedded training integration software - Definition, development, procurement, fabrication, integration, and testing of the common and unique training applications that are distributed across the FCS FoS.

Supportability application software - Definition, development, procurement, fabrication, integration, and testing of a Logistics Decision Support System (LDSS), and a Platform Soldier-Mission Readiness System (PS-MRS) to support each manned/unmanned platform vehicle.

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Network Software Management | 0 | 22194 | 533 |
| Network Software Analysis and Integration | 0 | 5336 | 236 |
| Command and Control | 0 | 5164 | 103285 |
| Information Management | 0 | 9400 | 43900 |
| System of Systems Common Operating Environment | 0 | 32659 | 0 |
| Fusion | 0 | 5100 | 27014 |
| Communication System Software | 0 | 0 | 54890 |
| Unmanned Vehicle Control Software | 0 | 0 | 0 |
| Weapons Management Control Software | 0 | 4400 | 0 |
| Advanced Collaborative Environment | 0 | 0 | 749 |
| Embedded Training Integration Software | 0 | 18338 | 72410 |
| Supportability Application Software | 0 | 14843 | 77474 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 0 | 117434 | 380491 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Managemen | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F63**

| 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 . Network Software Management | OTA | The Boeing Company - Seattle, Washington - See remark 1 | 0 | 0 | | 22194 | 1-3Q | 533 | 1-3Q | 0 | 22727 | 0 |
| b . Network Software Analysis & Integration | OTA | The Boeing Company - Seattle, Washington - See remark 2 | 0 | 0 | | 5336 | 1-3Q | 236 | 1-3Q | 0 | 5572 | 0 |
| c . Command and Control | OTA | The Boeing Company - Seattle, Washington - See remark 3 | 0 | 0 | | 5164 | 1-3Q | 103285 | 1-3Q | 0 | 108449 | 0 |
| d . Information Management | OTA | The Boeing Company - Seattle, Washington - See remark 4 | 0 | 0 | | 9400 | 1-3Q | 43900 | 1-3Q | 0 | 53300 | 0 |
| e . SoSCOE | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 32659 | 1-3Q | 0 | | 0 | 32659 | 0 |
| f . Fusion | OTA | The Boeing Company - Seattle, Washington - See remark 5 | 0 | 0 | | 5100 | 1-3Q | 27014 | 1-3Q | 0 | 32114 | 0 |
| g . Communication System Software | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 0 | | 54890 | 1-3Q | 0 | 54890 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F63**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . Unmanned Vehicle Control Software | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| i . Weapons Management Control Software | OTA | The Boeing Company - Seattle, Washington - See remark 6 | 0 | 0 | | 4400 | 1-3Q | 0 | | 0 | 4400 | 0 |
| j . ACE Applications | OTA | The Boeing Company - Seattle, Washington | 0 | 0 | | 0 | | 749 | 1-3Q | 0 | 749 | 0 |
| k . Embedded Training Integration Software | OTA | The Boeing Company - Seattle, Washington - See remark 7 | 0 | 0 | | 18338 | 1-3Q | 72410 | 1-3Q | 0 | 90748 | 0 |
| l . Supportability Application Software | OTA | The Boeing Company - Seattle, Washington - See remark 8 | 0 | 0 | | 14843 | 1-3Q | 77474 | 1-3Q | 0 | 92317 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 117434 | | 380491 | | 0 | 497925 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for in the Program Element 0604645A, Project 61, Government Cost project.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

Remark 1 - Subcontractor: Nortrop Grumman Mission Systems, Tactical Systems Division - Carson, CA
Remark 2 - Subcontractor: Autstin Information Systems - Austin, TX
Remark 3 - Subcontrator: Raytheon Network Centric Systems - Fort Wayne, IN
Remark 4 - Subcontractor: General Dyanmics Decision Systems - Scottsdale, AZ
Remark 5 - Subcontactor: Lockheed Martin Orincon Defense - San Diego, CA
Remark 6 - Subcontractor: The Boeing Company - Mesa, AZ
Remark 7 - Included in all subcontractor Scope of Work (SOW)
Remark 8 - Subcontractors: Northrop Grumman, Mission Systems, Tactical System Division - Carson, CA. Honeywell Defense & Electronic Systems - Albuquerque, NM

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F63**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F63**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

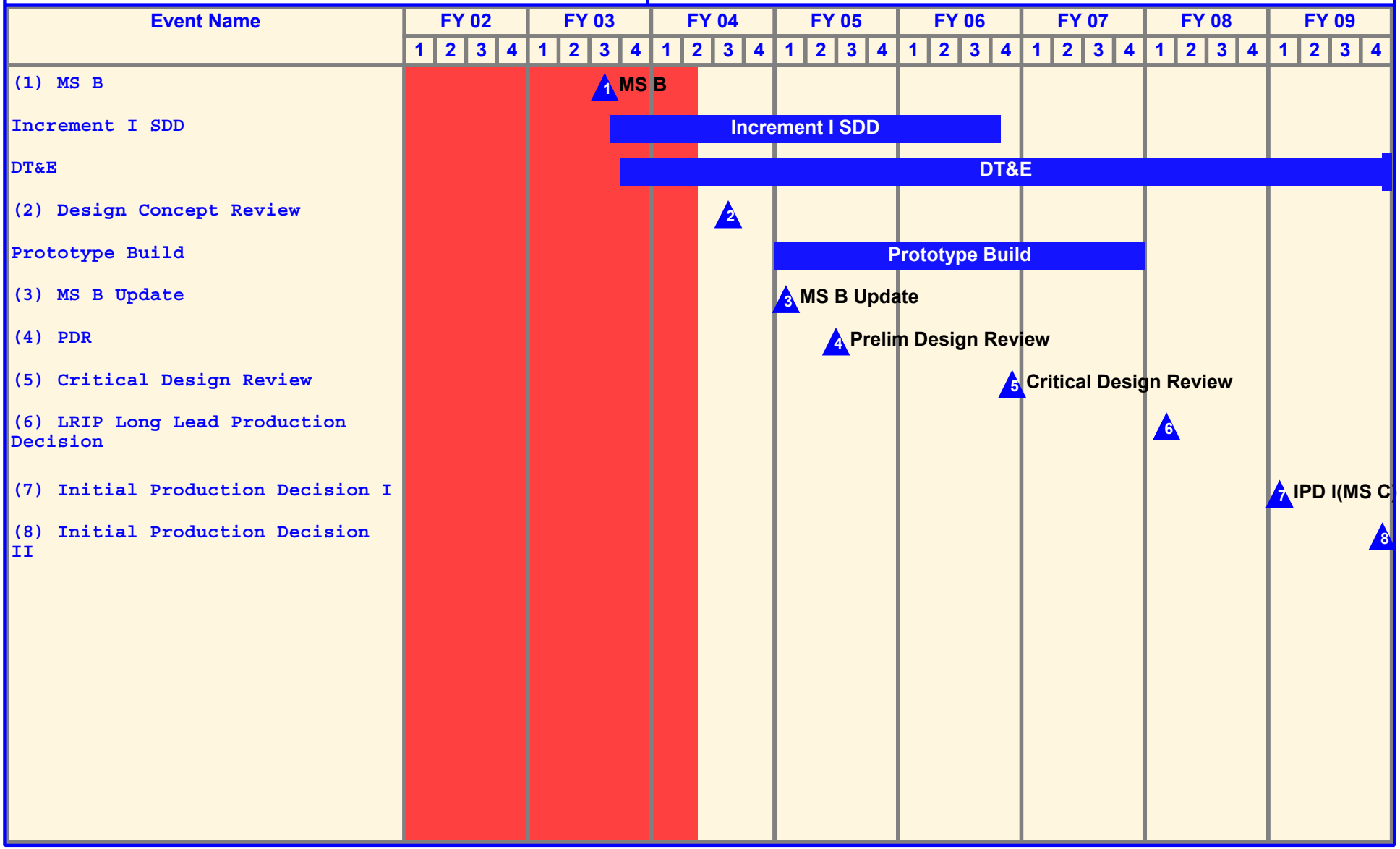
Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 117434 | | 380491 | | 0 | 497925 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604645A - Armored Systems Modernization (ASM)- Eng. Dev. | F63 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F63** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F64** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F64 | OTHER CONTRACT COSTS | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | Continuing | 1453316 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

Other Contract Costs include funding for contractor activities (management reserve, contractor undistributed budget, termination liability, cost of money, government and administrative costs, fee incentives, and other indirect costs) that are not included in the EVMS Baseline. Management reserve is budgeted within the Other Transaction Agreement (OTA) for in-scope efforts pending future definitization. Undistributed budget is budget within the OTA for known Scope of Work (SOW) pending distribution to control accounts. Termination liability is the amount of funding reserved in the OTA in case of contract termination. All management reserve and undistributed budget will be reallocated to the appropriate projects by reprogramming action at the quarterly review. Once these OTA funding requirements are identified, the funds will be moved to the appropriate project. When the termination liability requirements timeline expire, these funds will be redistributed to appropriate work projects. Cost of money and government administrative costs are negotiated by contract.

This system supports the Future Force transition path of the Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Undistributed Budget and Management Reserve | 0 | 57712 | 0 |
| Termination Liability | 0 | 109300 | 131000 |
| Fee and Indirect Support Costs (i.e. G&A) | 0 | 162489 | 115935 |
| Totals | 0 | 329501 | 246935 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F64** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirments Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F64**

| 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 . Undistributed Budget and Management Reserve | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 57712 | 1-3Q | 0 | | 0 | 57712 | 0 |
| b . Termination Liability | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 109300 | 1-3Q | 131000 | 1-3Q | 0 | 240300 | 0 |
| c . Fee and Indirect Support Cost (i.e. G&A) | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 162489 | 1-3Q | 115935 | 1-3Q | 0 | 278424 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 329501 | | 246935 | | 0 | 576436 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for the in Program Element 0604645A, Project 61, Government Support Costs.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F64**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 060454A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F64**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 329501 | | 246935 | | 0 | 576436 | 0 |

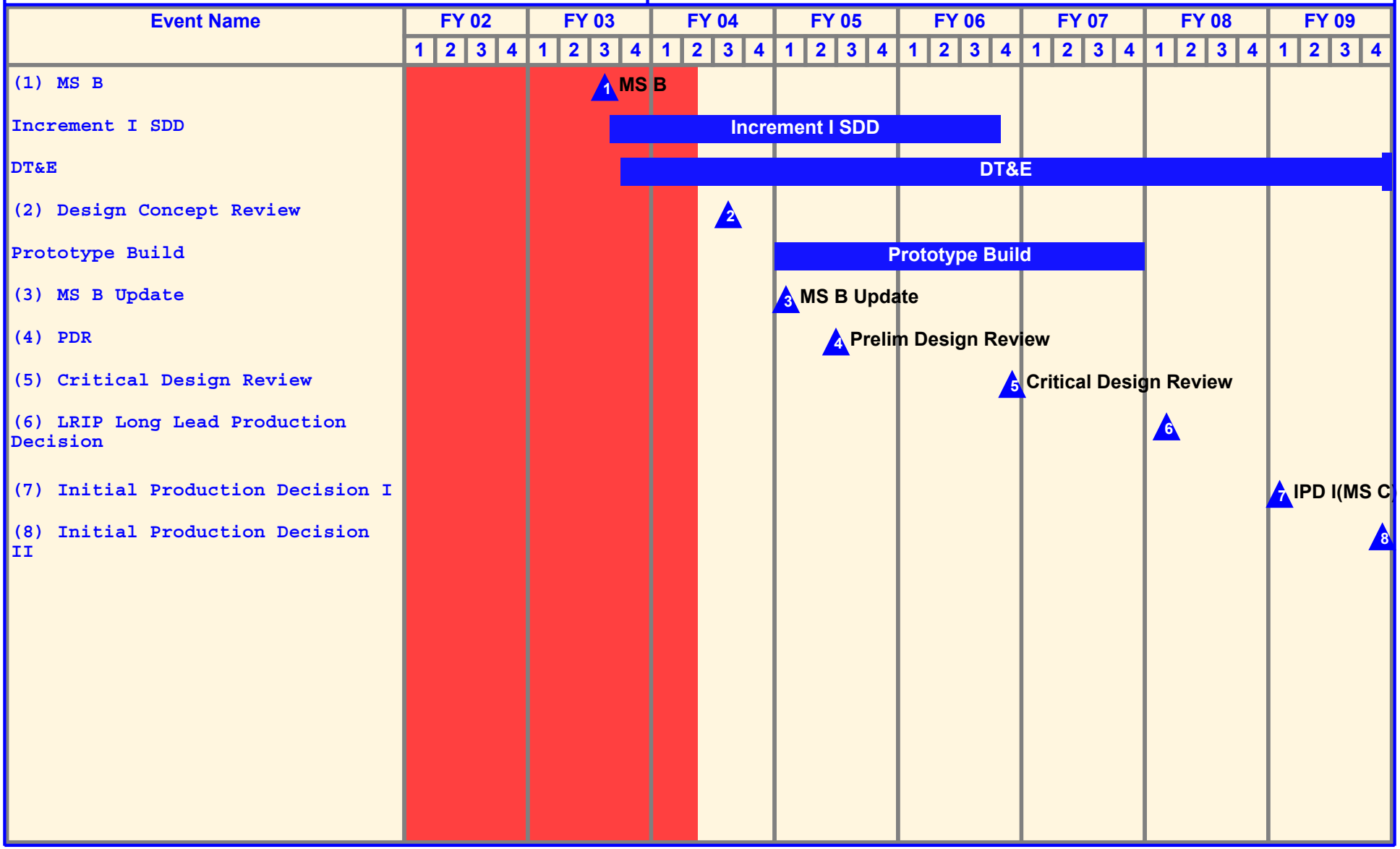
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F64**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F64** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirement Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | 1Q | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery 3Q 07 | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision 1Q 08 | | | | | | 1Q | |
| Network Maturity Milestone 4Q 08 | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F65** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F65 | S OF S ENGR & PROG MGT | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | Continuing | 1915890 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contract efforts for this project are found in the Work Breakdown Structure (WBS 1.1.1).

This project supports the System of Systems (SoS) engineering and program management activities necessary to ensure that the FCS design and processes support the objective capability as defined by the requirements documents and will be integrated and synchronized with the larger Unit of Action (UA) and Unit of Employment (UE). This project reflects budget breakout negotiated with the Congressional staffers of the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees. This project includes the following:

SoS Engineering - Conducting SoS reviews, the top level trade studies and architectural design of the SoS including requirements flowdown, configuration management oversight, specialty engineering and the analysis and verification of integrated force effectiveness. This effort includes: SoS Architecture Management, SoS Requirements Analysis Management, SoS Configuration Management, SoS Manpower and Personnel Integration (MANPRINT), SoS Performance Assurance, SoS Verification, SoS Trade Study Management, and SoS Technology Management & FCS Spiral Development.

Force Requirements - Support the development of UA User Requirements, including definition of operational interfaces, definition of joint operational concepts, analysis and flow down of these requirements to SOS engineering, and onsite support to the Army.

SoS Software Management - Establishment of software processes and management to provide the overarching program wide coordination and coherent guidance in matters relating to software. This team will ensure that the proper policies, processes, procedures, tools, and training are in place to provide an integrated coherent software management approach across all elements of the program.

Simulation and modeling for acquisition, requirements, and training (SMART) - Management, coordination, and as required, development, in collaboration with the Government and suppliers, SoS and FoS performance level modeling and simulation (M&S) capability for use in requirements analysis, design performance evaluation, and supporting SoS and system level testing.

Advanced Collaborative Environment (ACE) - Provision for a real-time, electronic collaborative access to a single integrated source of management information product information, and technical data. Development, maintainance, and maturation of the FCS ACE which is the primary means of creating, sharing, reporting, collecting, recording, and accessing program information between the LSI, authorized FCS major/critical subcontractors, and

authorized U.S. Government personnel connected with the FCS program.

Program Management and Control - Provision for an integrated program management (i.e. planning, directing, tools and controlling functions, for all development activities invoked by LSI processes, including data and subcontractor management), program control, procurement and contracts management, data management, and operations management associated with the LSI overarching management of the OTA.

SoS Logistics Management - Provision for the planning, management, integration, and oversight of all logistics functions to include the implementation of Performance Based Logistics. Conduct performance based logistics planning, analyses, and testing. Development and recommendation of the processes, procedures, and performance metrics to ensure logistics and readiness requirements are met.

SoS Product Assurance Management - Planning of a successful production transition from SDD to Low Rate Initial Production (LRIP) and then to Full Rate Production (FRP). The plan will detail quantities and processes for providing the necessary Long Lead items and provide product assurance and quality support at all levels of product development and manufacture. Assurance that production planning supports program objectives, risks, lean manufacturing, commonality, best practices, logistics production, production readiness and ensure facility planning support program requirements throughout the program lifecycle.

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| SoS Engineering | 0 | 23092 | 203793 |
| Force Requirements | 0 | 11512 | 83411 |
| SoS Software Management | 0 | 6674 | 4556 |
| SMART | 0 | 26100 | 62808 |
| ACE | 0 | 21818 | 36007 |
| Program Management and Control | 0 | 99623 | 64426 |
| SoS Logistics Management | 0 | 3243 | 502 |
| SoS Product Assurance | 0 | 7961 | 6421 |
| Totals | 0 | 200023 | 461924 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S & T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 COMMON COMPONENTS | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based

on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F65**

| 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 . SoS Engineering | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 23092 | 1-3Q | 203793 | 1-3Q | 0 | 226885 | 0 |
| b . Force Requirements | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 11512 | 1-3Q | 83411 | 1-3Q | 0 | 94923 | 0 |
| c . SoS Software Management | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 6674 | 1-3Q | 4556 | 1-3Q | 0 | 11230 | 0 |
| d . SMART | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 26100 | 1-3Q | 62808 | 1-3Q | 0 | 88908 | 0 |
| e . ACE | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 21818 | 1-3Q | 36007 | 1-3Q | 0 | 57825 | 0 |
| f . Program Management and Control | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 99623 | 1-3Q | 64426 | 1-3Q | 0 | 164049 | 0 |
| g . SoS Logistics Management | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 3243 | 1-3Q | 502 | 1-3Q | 0 | 3745 | 0 |
| h . SoS Product Assurance | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 7961 | 1-3Q | 6421 | 1-3Q | 0 | 14382 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 200023 | | 461924 | | 0 | 661947 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F65**

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions are accounted for in Program Element 0604645A, Project 61, Government Support Costs. Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F65**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Program Element 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 200023 | | 461924 | | 0 | 661947 | 0 |

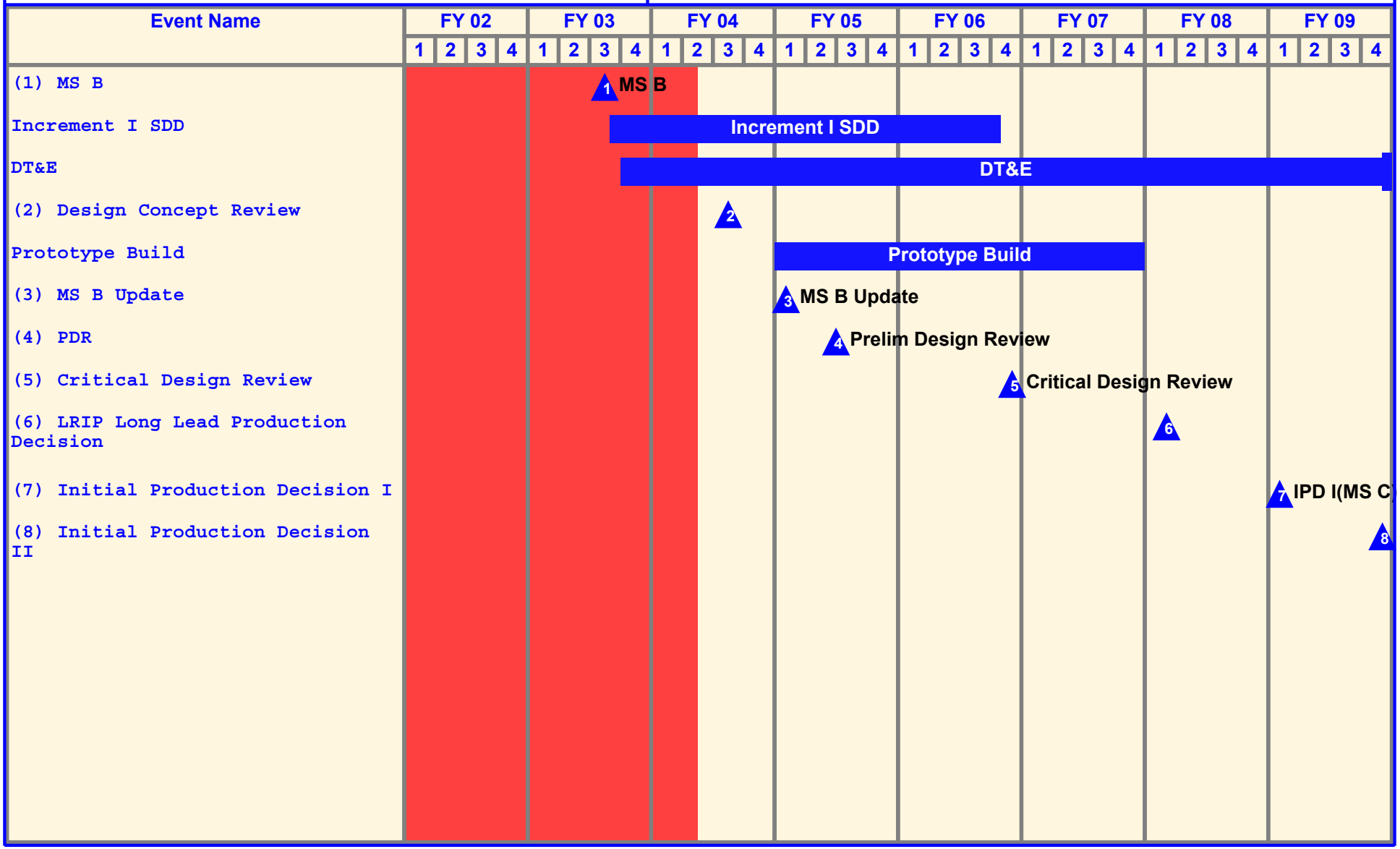
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F65**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F65** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F66** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F66 | S OF S TEST AND EVALUATION | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | Continuing | 446248 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Work Breakdown Structure (WBS 1.1.3).

System of Systems (SoS) Test and Evaluation includes contractor test and analysis to ensure SoS and Family of Systems (FoS) performance is effectively and efficiently achieved to specific criteria. This includes SoS test management, test planning, design, integration, execution, assessment and reporting, and verification analysis. It also includes funding for contractor test resources, facilities, and data management. This project reflects the budget breakout negotiated with the Congressional staffers of the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees.

This project supports the development of verification requirements for constructive and virtual simulations in support of trade studies, SoS force effectiveness and performance assessment, requirement validation, and design analysis, as well as development of architecture design alternatives for virtual (real-time) and non-real-time SoS simulations is also supported. Performance of SoS level integrated test and evaluation to verify SoS and system level performance in accordance with the Operational Requirements Document (ORD) requirements allocated to the SDD Increment 1 design in support of the initial Production Decision Reviews (PDR) are included. This responsibility includes facilities, resources, test phases, planning, execution, evaluation, and reporting as described below and in accordance with the test and evaluation master plan (TEMP). These Models and Simulations (M&S) shall include representations of components, systems, forces (Unit of Action (UA), Unit of Employment (UE), Joint, and opposing), and threats; scenario generators; environmental simulators; synthetic stimuli; and event controllers. These M&S shall serve as input or nodes on the system integration labs (SILs) and System of Systems Integration Labs (SoSIL) and wrap-arounds or players.

The effort uses integrated real and virtual test and evaluation to obtain and validate engineering data and design for the FCS equipped portion of the UA and interfaces with the non-FCS equipped portion of UA. Also the coordination of test and evaluation activities across systems and components.

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

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F66** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Management | 0 | 1560 | 1058 |
| Planning and Execution | 0 | 57656 | 53744 |
| Totals | 0 | 59216 | 54802 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 647603005A 53G FCS S&T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F66**

| 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 . Management | OTA | The Boeing Company - Seattle, WA | 0 | 0 | | 1560 | 1-3Q | 1058 | 1-3Q | 0 | 2618 | 0 |
| b . Planning and Execution | OTA | The Boeing Company - Seattle, WA | 0 | 0 | | 57656 | 1-3Q | 53744 | 1-3Q | 0 | 111400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 59216 | | 54802 | | 0 | 114018 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

Since the FCS Program is creating all budget justifications from the contractor's EVMS baseline and this baseline only includes contractor direct cost, all contractor projects will not include associated government personnel and test costs plus anticipated taxes.

All funding reserved for statutory reductions are accounted for the in Program Element (PE) 0604645A, Project 61, Government Support Cost. Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).



Since the FCS Program is creating all budget justifications from the contractor's EVMS baseline and this baseline only includes contractor direct cost, all contractor projects will not include associated government personnel and test costs plus anticipated taxes
All Government test costs are included in Project F61, Government Support Costs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F66**

| 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 | | 59216 | | 54802 | | 0 | 114018 | 0 |

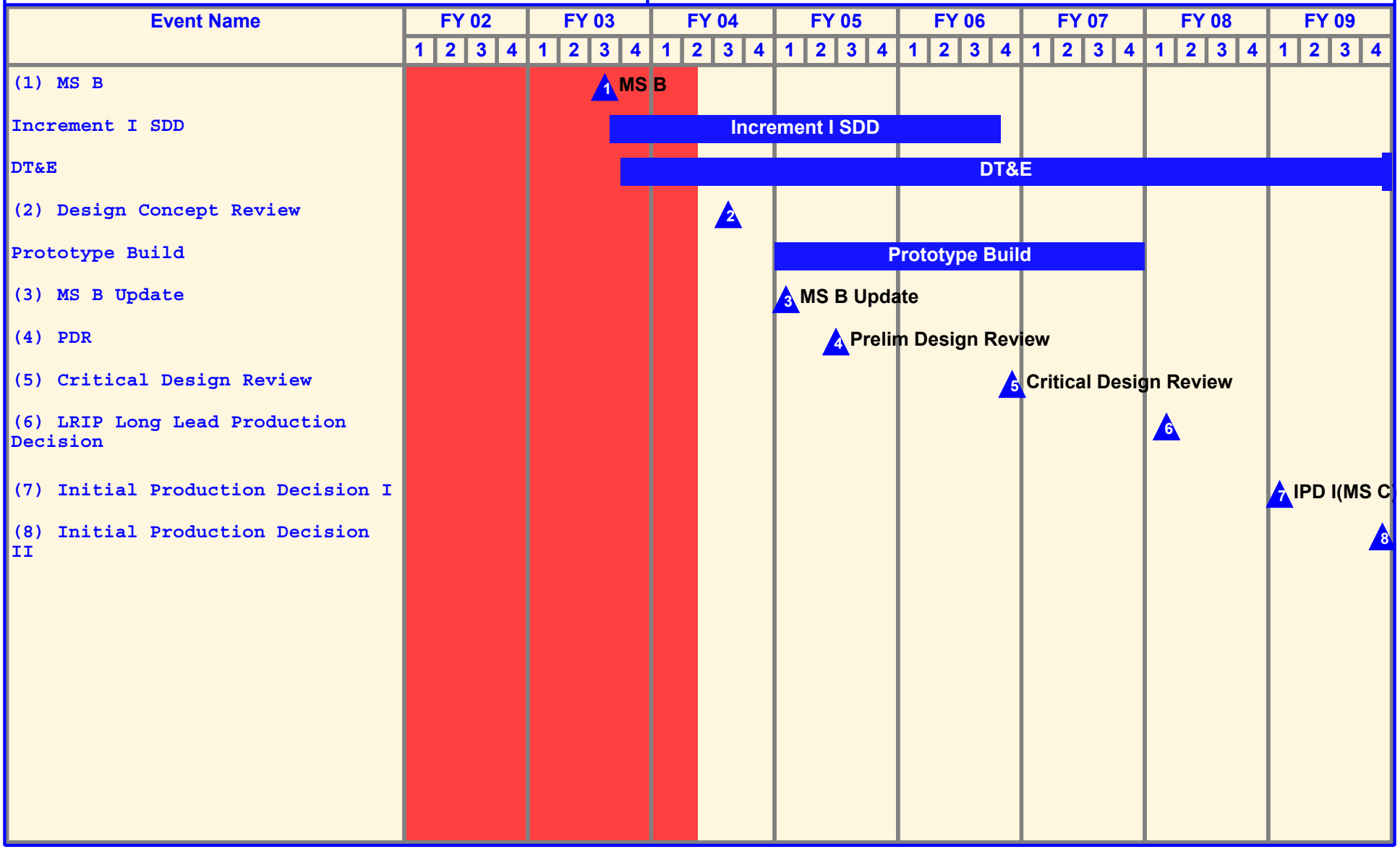
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F66**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F66** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F67** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| F67 SUPPORTABILITY | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | Continuing | 214760 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Work Breakdown Structure (WBS 1.1.2.4).

This effort inlcudes the development of the management, products, and services required to design, develop, assemble, integrate, and test the supportability processes and supporting automated applications within the FCS System of Systems (SoS). It also funds, analysis to aid in life cycle product support decision making to include developing and implementing metrics, performance standards, and warranty requirements. Definition of the Performance Based Logistics (PBL) business processes, performance metrics, standards, data management and analysis process, and the PBL concept for sustainment in accordance with the FCS supportability strategy is also included in this project.

This project also includes the integration of the products and services generated by the Product Support Provider (PSP) in order to meet SoS requirements for the Unit of Action (UA). This project reflects the budget breakout negotiated with the congressional staffers from the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees. This project includes the following:

Test Support and Demonstration - Provision of test support for equipment testing and demonstration for SoS and Family of Systems (FoS) supportability performance verification. Validation of maneuver sustainment, PBL, and other applicable support concepts during testing, demonstrations, and validations. Assurance of sensor collection of data for logistics decision support system software is adequate to support logistics modeling verification and validation efforts as well as operational PBL.

Logistics Support Analysis and Engineering - Utilization of a progressive assurance approach to plan, implement, and manage a supportability and reliability, availability, maintainability, and testability (RAM-T) program. Assurance that the suppliers use best commercial engineering approaches to design RAM into the platforms and systems early in the design process. Establishment of supportability metrics necessary to gauge the maturation and completion of supportability designs. Performance of logistics support analyses, power management analyses, and engineering design analyses for manned/unmanned platform vehicle (MUPV) systems, common and unique support equipment, and source and level of repair for SoS implementation. Assurance that technical operational and maintenance procedures are planned, developed, implemented, coordinated, verified and validated for each system. Development of draft embedded Class V Interactive Electronic Technical Manuals (IETMs) to support each SDD vehicle system type. Also includes reliability growth testing, environmental stress screening, and other reliability assurance efforts as appropriate.

Logistics Management Product Integration - Provides support integration of supportability products into the SoS elements including diagnostics/prognostics functions. Conduction of logistics technical reviews at the system, vehicle, and component levels. Includes fielding analyses and recommendation of the most suitable fielding methodology for the Increment 1 of FCS into the UA.

Fielding - Development of process for deploying vehicles to home base locations to include facilities analysis. Also includes the use of integrated real and virtual test and evaluation to obtain and validate engineering data and design for the FCS equipped portion of the UA and interfaces with the non-FCS equipped portion of UA.

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Test and Demonstration | 0 | 37 | 6020 |
| Logistics Support and Analysis | 0 | 1979 | 5049 |
| Logistics Management | 0 | 3343 | 16250 |
| Fielding | 0 | 159 | 4435 |
| Totals | 0 | 5518 | 31754 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F67** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S&T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirments Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F67**

| 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 . Test and Demonstration | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 37 | 1-3Q | 6020 | 1-3Q | 0 | 6057 | 0 |
| b . Logistics Support and Analysis | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 1979 | 1-3Q | 5049 | 1-3Q | 0 | 7028 | 0 |
| c . Logistics Management | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 3343 | 1-3Q | 16250 | 1-3Q | 0 | 19593 | 0 |
| d . Fielding | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 159 | 1-3Q | 4435 | 1-3Q | 0 | 4594 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 5518 | | 31754 | | 0 | 37272 | 0 |

Remarks: All estimates are based on the LSI proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions are accounted for the in "Government cost" project.

Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F67**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F67**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 5518 | | 31754 | | 0 | 37272 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F67** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufactuing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F68** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F68 | SYS INTEGRATION MGT | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | Continuing | 214178 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contractor efforts for this project are found in the Work Breakdown Structure (WBS 1.1.2.3.1). This project covers the management activities required to ensure the integration of the various Family of Systems (FoS) components and elements into the FCS System of Systems (SoS). Systems Integration Management includes the management of engineering activities for: sensors, communication sytems, crew stations, vetronics, computers, survivability suites, suspension, powertrain, structure, vehicle utility systems, autonomous navigation, common software, and other common and vehicle unique components. This project affects the budget breakout negotiated with Congressional staffers from all four defense committees. The same level of management data will be reviewed quarterly with the four defense committees.

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| System Integration Platforms - Management | 0 | 0 | 51861 |
| Totals | 0 | 0 | 51861 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F68** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S&T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F68**

| 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 Integration Management | OTA | The Boeing Company, Seattle, Washington | 0 | 0 | | 0 | | 51861 | 1-3Q | 0 | 51861 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 51861 | | 0 | 51861 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for the in "Government Support Cost" project.
Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F68**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation Costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Program Element (PE) 0604645A, Project F66, System of Systems Test & Evaluation.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs.

| Project Total Cost: | | | 0 | 0 | | 0 | | 51861 | | 0 | 51861 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

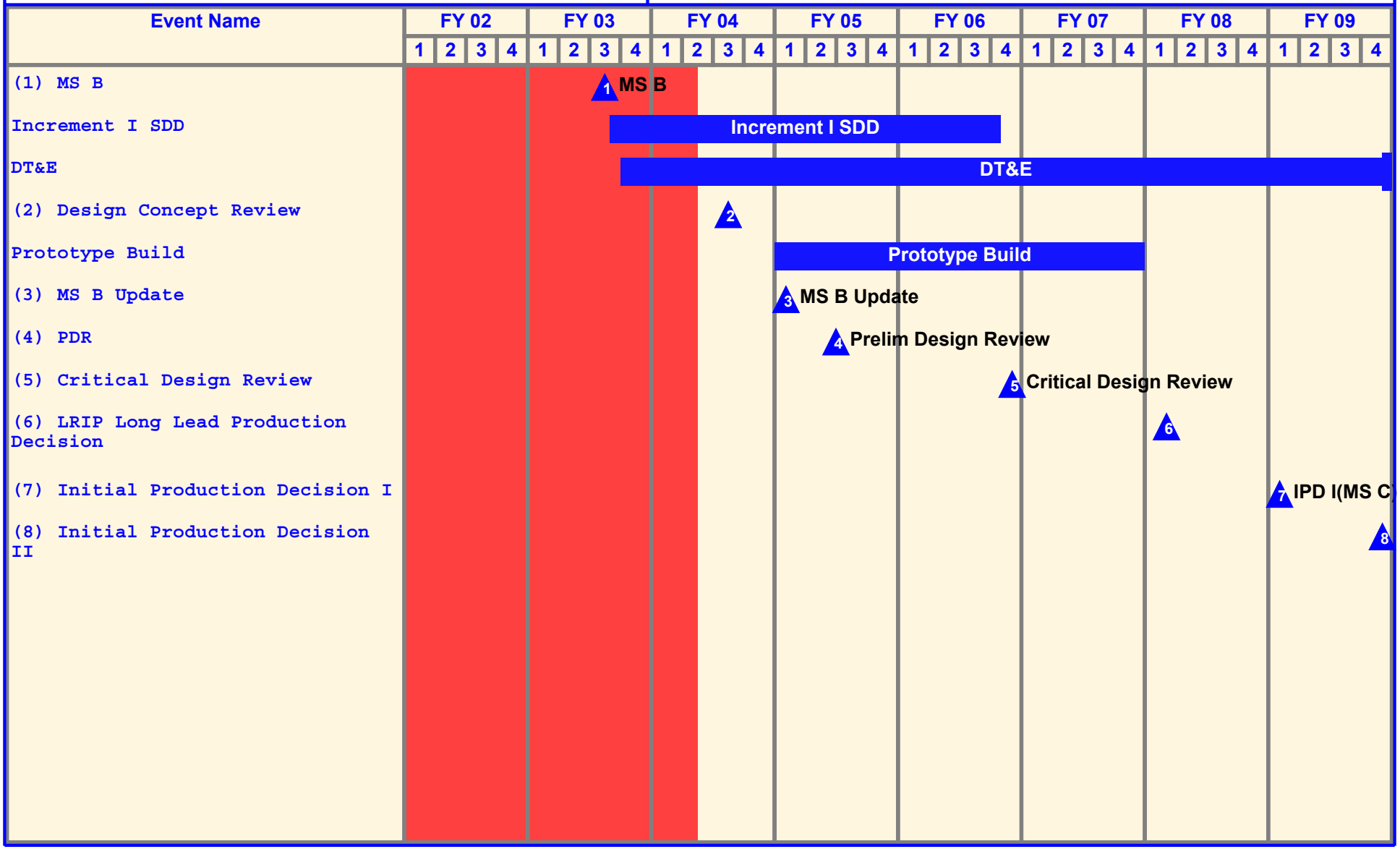
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F68**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F68** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F69** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| F69 TRAINING | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | Continuing | 113983 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

The contract efforts for this project are found in the Work Breakdown Structure (WBS 1.1.2.5).

Training includes contractor analysis to support training for the System of Systems (SoS). This effort includes the design and development engineering, integration, embedded training, and testing of unique training devices, training systems engineering, training products, training support packages, and training integration. This project reflects the budget breakout negotiated with the Congressional staffers from the four defense committees. The same level of management data will be reviewed quarterly with the four defense committees.

Provides for the management, plans, products, verification and validation, and services required to ensure design, development, fabrication, integration, and test of a Unit of Action (UA) training program and FCS training system capable of meeting Operational Requirements Document (ORD) objectives. Assurance that the training system is designed as an integral part of the overall SoS design to meet Increment 1 requirements and provides for future increment upgrades. Identification, assessment, and mitigatation of training risks as part of the SDD risk reduction effort and coordination of these risk reduction efforts with the SoS Engineering technical risk manager. Support for the distributed network and platform development efforts required to implement embedded and stand alone training designs within Family of Systems (FoS) products necessary to ensure these designs meet ORD requirements. Also includes training product design/interfaces as required to address U.S. Army training implementation beyond the SoS and/or FoS levels for consistency with the existing/planned U.S. Army training infrastructure. Applies a common systematic approach to identify, define, and assess training system technologies and training environments for potential application to FCS training requirements. This includes both current and emerging technology.

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Engineering | 0 | 6405 | 7059 |
| Planning | 0 | 1746 | 14738 |
| Totals | 0 | 8151 | 21797 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F69** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 603005A 53G FCS S&T Activities for Future Spirals | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F69**

| 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 . Engineering | OTA | The Boeing Company, Seattle, Washington - See Remark 1 | 0 | 0 | | 6405 | 1-3Q | 7059 | 1-3Q | 0 | 13464 | 0 |
| b . Planning | OTA | The Boeing Company, Seattle, Washington - See Remark 1 | 0 | 0 | | 1746 | 1-3Q | 14738 | 1-3Q | 0 | 16484 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 8151 | | 21797 | | 0 | 29948 | 0 |

Remarks: All estimates are based on the Lead System Integrator (LSI) proposal. As discussed with the Congressional staffers of the four defense committees, the proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SIBR/STTR) are accounted for the in "Government Support Cost" project.
Funding in FY07-FY09 is being revised in the Army Program Objective Memorandum (POM) to reflect the Total Obligation Authority (TOA) required as reflected in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

Remark 1 - Subcontractors:
- Computer Science Corporation, Federal Sector Defense Group - Hampton, VA.
- Dynamics Research Corporation Systems Division - Andover, MA.
- Northrop Grumman, Information Technology, Defense Enterprise Solutions Division - McLean, VA.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F69**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation are included in Program Element (PE) 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in Program Element (PE) 0604645AF66, Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F69**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in Program Element (PE) 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 8151 | | 21797 | | 0 | 29948 | 0 |

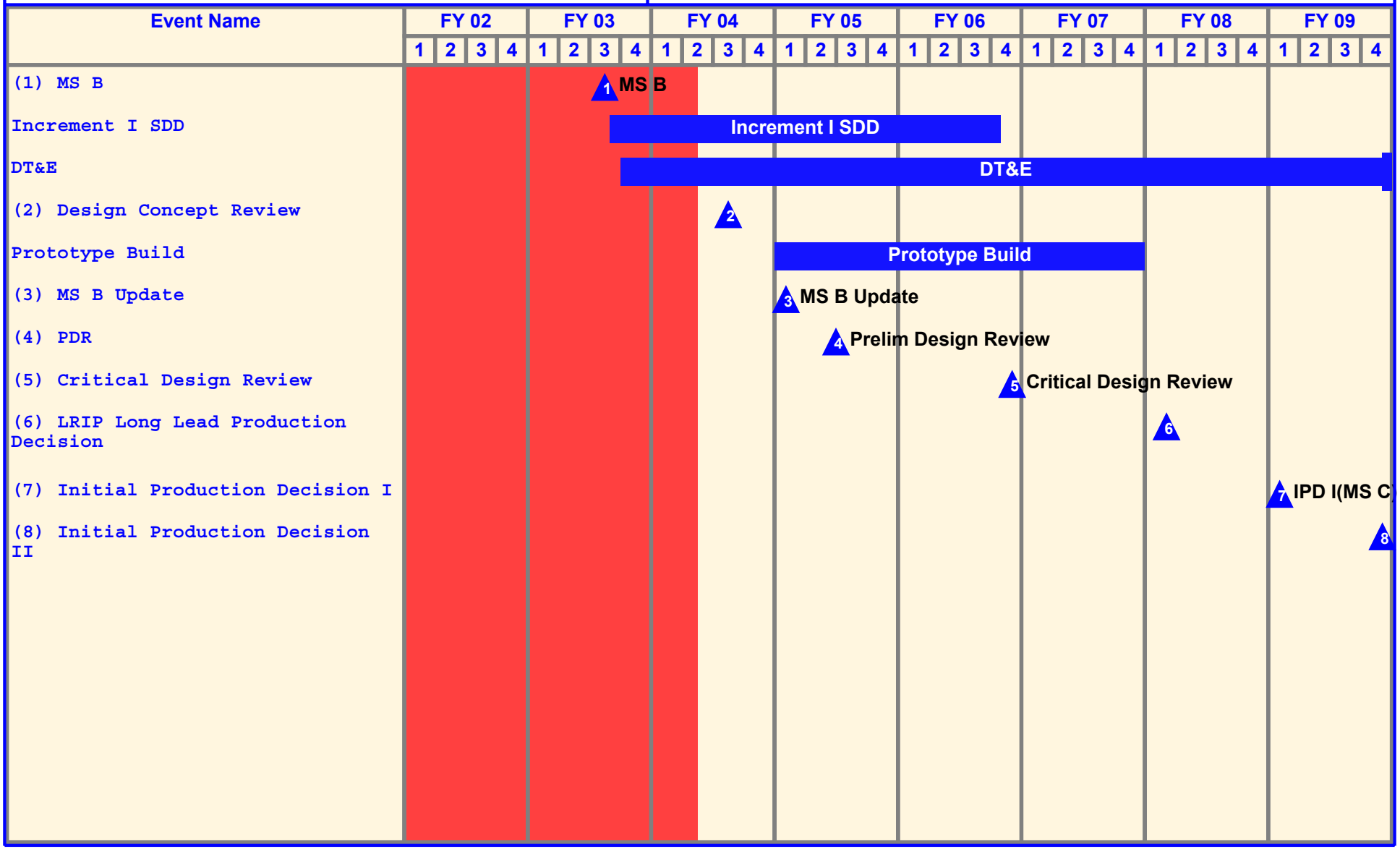
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F69**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F69** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirements Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Required MS B Update | | | 1Q | | | | |
| Long Lead for Prototypes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Protoype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decision | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision 1 | | | | | | | 1Q |
| Initial Production Decision 2 | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F70** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F70 | NLOS LAUNCH SYSTEM | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | Continuing | 1250168 |

**A. Mission Description and Budget Item Justification:** This project is part of the System Development and Demonstration (SDD) Program Element (PE) funding for the Future Combat Systems (FCS).

This project focuses on the development of a materiel solution to meet the Non-Line of Sight - Launch System (NLOS-LS) operational need as delineated in the Future Combat System (FCS) Operational Requirements Document (ORD). NLOS-LS provides enabling lethality for the FCS Unit of Action (UA). 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 Increment I configuration will consist of Precision Attack Missiles (PAMs) focused on defeating hard targets and Loitering Attack Missiles (LAMs) focused on defeating fleeting, high-value targets as well as supporting both targeting information and Battle Damage Assessment. 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 are capable of being updated in-flight via on-board Joint Tactical Radio Set (JTRS) Cluster 5 radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. Both Increment I missiles will have limited Automatic Target Recognition (ATR) capability which can be upgraded in future versions.

The FY 04-05 budget supports the initiation of an SDD program and conduct of a Preliminary Design Review for NLOS-LS. Efforts will focus on maturing the Defense Advanced Research Project Agency (DARPA) Netfires technology for qualification, producibility, and meeting Army requirements; 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 into FCS platforms and the network.

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| PAM detailed system design, software engineering, prototype manufacturing | 0 | 20662 | 30935 |
| LAM detailed system design, software engineering, prototype manufacturing | 0 | 18264 | 27334 |
| CLU detailed system design, software engineering, prototype manufacturing | 0 | 4325 | 7118 |
| NLOS-LS System Integration, system level engineering and test and evaluation | 0 | 8771 | 11058 |
| Totals | 0 | 52022 | 76445 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F70** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G S&T Activities for Future Spirals | 162000 | 112659 | 109360 | 48188 | 0 | 0 | 0 | 0 | 432207 |
| 604647A F58 Non-Line of Sight - Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based

on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. The Army plans to award the NLOS-LS SDD contract sole source to Netfires LLC, Grand Prairie, TX, second quarter FY04.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F70**

| 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 . PAM | CPIF | Netfires, LLC - Grand Prairie, Texas, VARIOUS | 0 | 0 | | 20662 | 2Q | 30935 | 1Q | 426587 | 478184 | 0 |
| b . LAM | CPIF | Netfires, LLC - Grand Prairie, Texas, VARIOUS | 0 | 0 | | 18264 | 2Q | 27334 | 1Q | 403207 | 448805 | 0 |
| c . CLU | CPIF | Netfires, LLC - Grand Prairie, Texas , VARIOUS | 0 | 0 | | 4325 | 2Q | 7118 | 1Q | 105989 | 117432 | 0 |
| d . NLOS-LS System Integration | CPIF | Netfires, LLC - Grand Prairie, Texas, VARIOUS | 0 | 0 | | 8771 | 2-4Q | 11058 | 1-4Q | 185918 | 205747 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 52022 | | 76445 | | 1121701 | 1250168 | 0 |

Remarks: The proposal data will be modified into an earned value management (EVM) program baseline at the end of February 2004. After the baseline is finalized, the Army will provide the four defense committees with the updated baseline and R-forms to the agreed upon format.

All funding reserved for statutory reductions (SBIR/STTR) are accounted for in the project "Government Support Cost".

Funding in FY07-FY09 is being revised to reflect the Total Obligation Authority (TOA) required in the Army Cost Position (ACP) as directed in the Acquisition Decision Memorandum (ADM).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604645A - Armored Systems Modernization (ASM)- Eng. Dev.**

PROJECT
**F70**

| 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 |

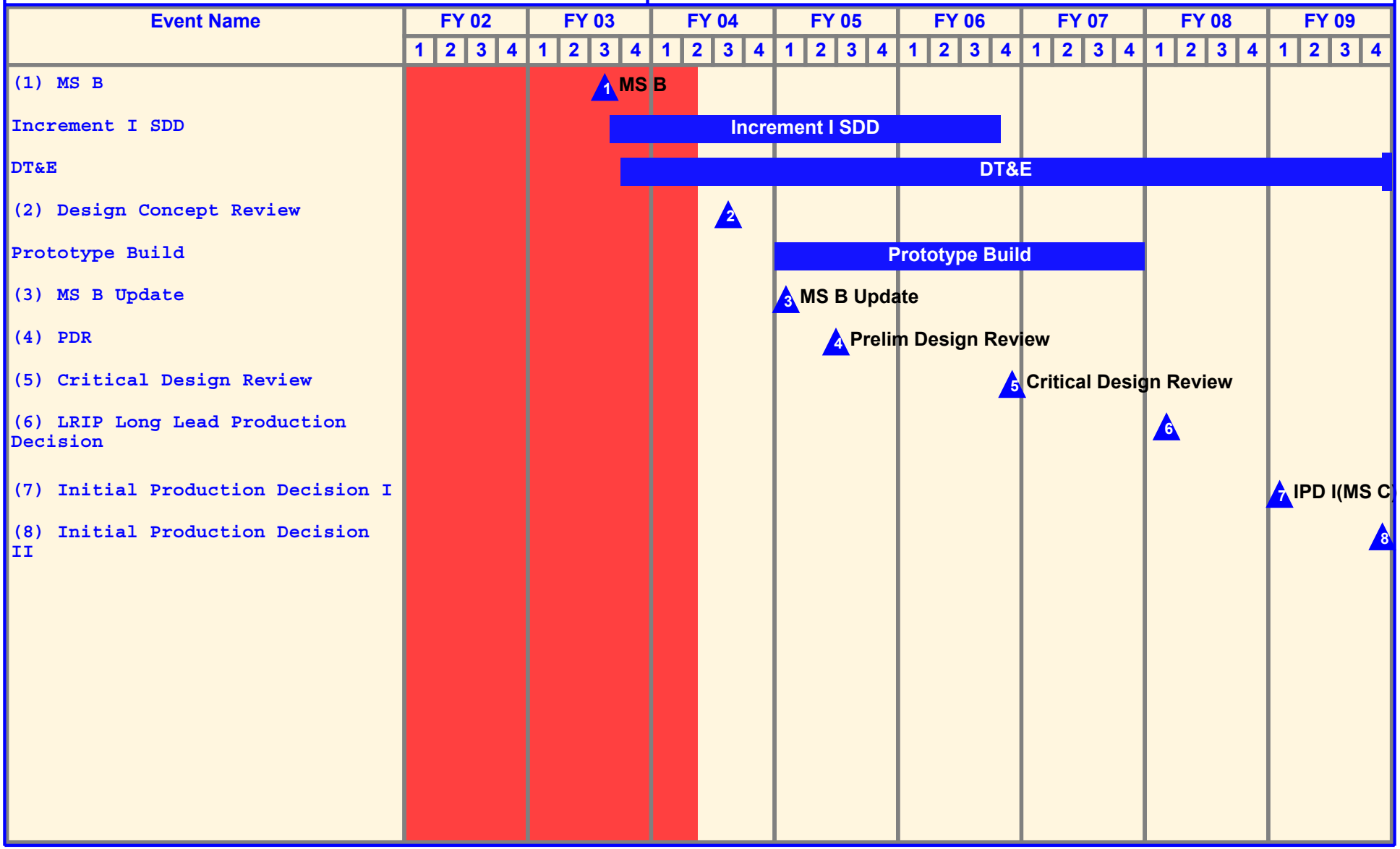
| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 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 |
| Project Total Cost: | | | 0 | 0 | | 52022 | | 76445 | | 1121701 | 1250168 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604645A - Armored Systems Modernization (ASM)- Eng. Dev. | F70 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)- Eng. Dev.** | **F70** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Risk Reduction Contracts | 2Q | | | | | | |
| Risk Reduction IPR | 3-4Q | | | | | | |
| Increment 1 SDD Contract Award | | 2Q | | | | | |
| Integration Phase SDD (IPS1) | | | 1-4Q | | | | |
| Critical Design Review | | | | 4Q | | | |
| Integration Phase SDD (IPS2) | | | | 1-4Q | | | |
| Integration Phase SDD (IPS3) | | | | | 1-4Q | | |
| Integration Phase SDD (IPS4) | | | | | | 1-4Q | |
| Milestone C | | | | | | 4Q | |
| LRIP Award | | | | | | | 1Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F71** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F71 | JOINT MILITARY INTEL PROG | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**A. Mission Description and Budget Item Justification:** The Joint Military Intelligence Program (JMIP) Project is intended to highlight Work Breakdown Structure (WBS) elements that affect multiple user/Joint Service support. The appropriate WBS elements that will make up this project have not been identified yet, but by the budget baseline update in March 2004 this project will be tied to the appropriate WBS elements.

**Accomplishments/Planned Program** Not applicable for this item.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.** | **F71** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306159 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S&T Activities for Future Spiral | 162000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 162000 |
| 604647A F58 Non-Line of Sight – Cannon | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight–Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**C. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved ORD and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604647A - Non Line of Sight Cannon** | **F58** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F58 | NON LINE OF SIGHT CANNON | 0 | 260495 | 497643 | 459084 | 285095 | 104452 | 32388 | 0 | 1639157 |

**A. Mission Description and Budget Item Justification:** Future Combat Systems (FCS) will operate as a system of systems (SoS) that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action (UA). 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 UA to connect to the Unit of Employment (UE), joining capabilities, and national assets making these capabilities available to the small units of the UA.

FCS enables the networked UA to develop the situation in and out of contact, set conditions, maneuver to positions of advantage to close with and destroy the enemy through standoff attack and combat assault as articulated in the Future Force UA Operations and Organizational (O&O) plan.

The FCS program is contained in two Program Elements (PEs): Non-Line of Sight - Cannon (NLOS-C) and Armored Systems Modernization (ASM). PE NLOS-C contains the development effort associated with NLOS-C unique work and all Manned Ground Vehicle (MGV) common components. PE ASM contains the development effort for the balance of the MGVs, Unmanned Ground Vehicles (UGVs), Unmanned Air Vehicle (UAVs), Non-Line of Sight - Launch System (NLOS-LS), and SoS development efforts including the network, integration, and software.

Army transformation is grounded in the operational framework of joint doctrine and the concepts for future joint and combined operations. Transforming to the Future Force and developing the FCS is the Army's number one priority. The FCS family of systems (FoS) is being designed with the joint fight in mind.

FCS 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 which are networked via a Command, Control, Computers, Communication, Intelligence, Surveillance and Reconnaissance (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.

This PE comprises a portion of the System Development and Demonstration (SDD) funding requirement for the FCS program.

The R-Forms will now be based on the WBS program management structure, which will provide Congress the same program baseline data for budget justification as the Program Manager uses for program management. The two Program Elements (PE) and fourteen projects reflect the WBS reporting structure that will be provided to Congress quarterly

.

A brief description of the NLOS-C project is networked, sustained, extended-range (30km) cannon fires for precision attack of point and area targets in support of the FCS UA.

The Army is executing the FCS program to achieve the earliest possible fielding of the first FCS-equipped UA. Within the FCS appropriation, which includes the separate PE for NLOS-C, the Army plan is to deliver NLOS-C and other MGV pre-production systems for limited user and developmental testing in 2007 and again in 2008. Fielding of the Initial Operational Capability (IOC) of the UA will be in place by the end of calendar year 2010.

The Army established NLOS-C as the lead MGV of the FCS FoS. Two aspects of the FCS program are critical in understanding the Army's acquisition approach for FCS development. Firstly, the FCS program focus is on providing combat capability at the unit level. This program is not about systems operating in isolation. Key to this approach is the synergy achieved by integrated development and acquisition of sensors, unmanned vehicles, airframes, and combat vehicles including NLOS-C working together and connected by a network, all operated by skilled soldiers. We cannot separate individual variants from the SoS concept because this would decrease synergy and effectiveness of the UA and places soldiers and their combat systems at a lethality and survivability disadvantage. Secondly, commonality of hardware and software within the FCS program is a priority action needed to reduce the Lifecycle costs and logistical footprint of the UA.

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

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Non-Line of Sight - Cannon (NLOS-C) Unique Mission Equipment | 0 | 36400 | 93686 |
| Ground Sensors | 0 | 9800 | 129252 |
| Communication Systems | 0 | 19600 | 43221 |
| Crew Stations | 0 | 17743 | 27149 |
| Vetronics | 0 | 17743 | 27149 |
| Computers | 0 | 71700 | 52384 |
| Survivability Suites | 0 | 17743 | 27149 |
| Tractions and Suspensions | 0 | 17743 | 27149 |
| Powertrain | 0 | 17743 | 27149 |
| Structure | 0 | 17743 | 27149 |
| Vehicle Utility Systems | 0 | 16537 | 16206 |
| Common Software | 0 | 0 | 0 |
| Totals | 0 | 260495 | 497643 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604647A - Non Line of Sight Cannon** | **F58** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget | 0 | 0 | 0 |
| Current Budget (FY 2005 PB) | 0 | 260495 | 497643 |
| Total Adjustments | 0 | 260495 | 497643 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | 260495 | 497643 |

Creation of a new Program Element (PE) 0604647A, Project F58, as required by Congress.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| 603645A F48 Networked Fires (FY03 only) | 127951 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 127951 |
| 603854A F47 Non-Line of Sight – Cannon (FY03 only) | 306778 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 306778 |
| 604645A 470 FCS SDD (FY03 only) | 159175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 159175 |
| 604645A F49 Non-Line of Sight – Launch System (FY03 only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 603005A 53G FCS S&T Activities for Future Spirals | 162000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 162000 |

| C. Other Program Funding Summary (continued) | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | | |
|---|---|---|---|---|---|---|---|---|---|
| 604645A F59 Common Components | 0 | 32548 | 115163 | 136561 | 100357 | 47645 | 27481 | 0 | 459755 |
| 604645A F60 Family of Systems Analysis & Integration | 0 | 173719 | 135903 | 168624 | 172187 | 115959 | 108354 | 0 | 874746 |
| 604645A F61 Government Support Costs | 0 | 305728 | 488750 | 615028 | 547652 | 456057 | 409729 | 0 | 2822944 |
| 604645A F62 Mission Equipment Platforms | 0 | 139286 | 634630 | 1208793 | 953321 | 367634 | 139362 | 0 | 3443026 |
| 604645A F63 Network Software | 0 | 117434 | 380491 | 500953 | 386237 | 220761 | 155530 | 0 | 1761406 |
| 604645A F64 Other Contract Costs | 0 | 329501 | 246935 | 336042 | 277395 | 149082 | 114361 | 0 | 1453316 |
| 604645A F65 System of Systems Engineering & Program Management | 0 | 200023 | 461924 | 436673 | 365618 | 270763 | 180889 | 0 | 1915890 |
| 604645A F66 System of Systems Test & Evaluation | 0 | 59216 | 54802 | 80083 | 94624 | 74414 | 83109 | 0 | 446248 |
| 604645A F67 Supportability | 0 | 5518 | 31754 | 55324 | 55160 | 38191 | 28813 | 0 | 214760 |
| 604645A F68 Integration Management | 0 | 0 | 51861 | 54602 | 44555 | 32126 | 31034 | 0 | 214178 |
| 604645A F69 Training | 0 | 8151 | 21797 | 30876 | 26346 | 14606 | 12208 | 0 | 113984 |
| 604645A F70 Non-Line of Sight – Launch System | 0 | 52022 | 76445 | 168278 | 311203 | 374630 | 267590 | 0 | 1250168 |
| 604645A F71 Joint Military Intel Program (JMIP) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| WTCV G86100 FCS Production | 0 | 0 | 0 | 0 | 752324 | 3187371 | 3153325 | 0 | 7093020 |

**D. Acquisition Strategy:** On 14 May 2003, the Defense Acquisition Board (DAB) approved the program's Milestone (MS) B decision based on a Joint Requirement Oversight Committee (JROC) approved Operational Requirements Document (ORD) and an approved Army Cost Position (ACP). As a result of the DAB review, an Acquisition Decision Memorandum (ADM) was approved by the Defense Acquisition Executive (DAE) on 17 May 2003. This ADM approved the Army's entrance in SDD and directed the Army to fully fund FCS and complementary Army programs across the FY05-09 Future Years Defense Program (FYDP) to the Army's costs estimates. Based on the ADM, the Army signed a ceiling price Other Transaction Agreement (OTA) with the Lead Systems Integrator (LSI) on 30 May 2003. On 10 December 2003, the Army definitized the SDD OTA with the LSI.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604647A - Non Line of Sight Cannon**

PROJECT
**F58**

| 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 . Non-Line of Sight – Cannon (NLOS-C) Unique Mission Equipment | OTA | The Boeing Company - Seattle, Washington - See remark 1 | 0 | 0 | | 36400 | 1-3Q | 93686 | 1-3Q | 0 | 130086 | 0 |
| b . Ground Sensors | OTA | The Boeing Company - Seattle, Washington - See remark 3 | 0 | 0 | | 9800 | 1-3Q | 129252 | 1-3Q | 0 | 139052 | 0 |
| c . Communication Systems | OTA | The Boeing Company - Seattle, Washington - See remark 4 | 0 | 0 | | 19600 | 1-3Q | 43221 | 1-3Q | 0 | 62821 | 0 |
| d . Crew Stations | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |
| e . Vetronics | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |
| f . Computers | OTA | The Boeing Company - Seattle, Washington - See remark 5 | 0 | 0 | | 71700 | 1-3Q | 52384 | 1-3Q | 0 | 124084 | 0 |
| g . Survivability Suites | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604647A - Non Line of Sight Cannon**

PROJECT
**F58**

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h . Tractions and Suspensions | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |
| i . Powertrain | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |
| j . Structure | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 17743 | 1-3Q | 27149 | 1-3Q | 0 | 44892 | 0 |
| k . Vehicle Utility Systems | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 | 0 | 0 | | 16537 | 1-3Q | 16206 | 1-3Q | 0 | 32743 | 0 |
| l . Common Software | OTA | The Boeing Company - Seattle, Washington - See remark 1 & 2 see remark 6 | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 260495 | | 497643 | | 0 | 758138 | 0 |

Remarks: Remark 1 - Subcontractor: United Defense Limited Partnership - Minneapolis, MN
Remark 2 - Subcontractor: General Dynamics Land Systems - Sterling Heights, MI
Remark 3 - Subcontractor: Raytheon Network Centric Systems, Plano, TX
Remark 4 - Subcontractor: BAE Systems, CNI - Wayne, NJ
Remark 5 - Subcontractor: General Dynamics Advanced Information Systems - Bloomington, MN
Remark 6 - the NLOS-C (Common Vehicle Utility Subsystem) is now funded in the FCS Program Element (PE 0604645A) under project 59, Common Components.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604647A - Non Line of Sight Cannon**

PROJECT
**F58**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government Support costs are included in PE 0604645A Project F61, Government Support Costs.

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Government System Test & Evaluation are included in PE 0604645A, Project F61, Government Support Costs. Contractor System Test & Evaluation costs are included in PE 0604645A, Project F66, System of Systems Test & Evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604647A - Non Line of Sight Cannon**

PROJECT
**F58**

| 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 . * | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

Remarks: * All Management Services costs are included in PE 0604645A, Project F61, Government Support Costs.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 260495 | | 497643 | | 0 | 758138 | 0 |

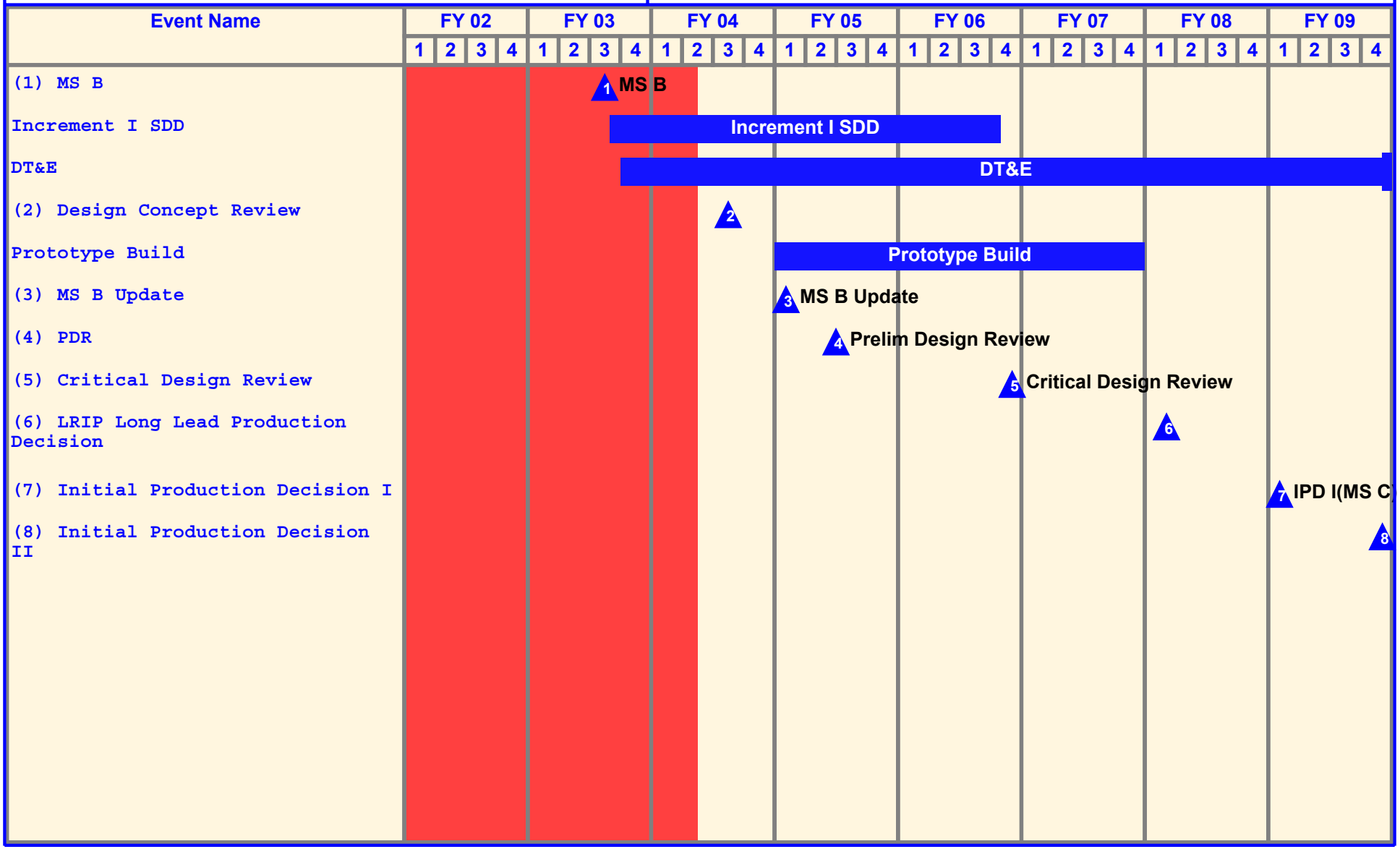
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604647A - Non Line of Sight Cannon**

PROJECT
**F58**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604647A - Non Line of Sight Cannon** | **F58** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B | 3Q | | | | | | |
| SDD Ceiling Price OTA Award for FCS | 3Q | | | | | | |
| SDD Definitization of OTA | | 1Q | | | | | |
| SoS Requirement Review (RR) | | 1Q | | | | | |
| EVMS Integrated Baseline Review (IBR) | | 3Q | | | | | |
| SoS Functional Review (FR) | | 4Q | | | | | |
| ADM Requirements MS B Update | | | 1Q | | | | |
| Long Lead for Prototpyes | | | 1Q | | | | |
| SoS Preliminary Design Review (PDR) | | | 2Q | | | | |
| Phase 1 Integration at Test Completion | | | 4Q | | | | |
| Prototype Manufacturing | | | | 2Q | | | |
| Phase 2 Integration at Test Completion | | | | 4Q | | | |
| SoS Critical Design Review (CDR) | | | | 4Q | | | |
| First Prototype Delivery | | | | | 3Q | | |
| Phase 3 Integration at Test Completion | | | | | 4Q | | |
| Low Rate Initial Production (LRIP) Long Lead Production Decisin | | | | | | 1Q | |
| Network Maturity Milestone | | | | | | 4Q | |
| Initial Production Decision1 | | | | | | | 1Q |
| Initial Production Decision2 | | | | | | | 4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604649A - ENGINEER MOBILITY EQUIPMENT DEVELOPMENT** | **G29** |

| COST (In Thousands) | FY 2003 Actual | 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 | 7651 | 0 | 0 | 0 | 0 | 11160 | 11935 | Continuing | Continuing |

**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 29 years, the 38 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 contribute significantly to low readiness. Replacing the current 1950's technology hydraulic/electrical systems with current state of practice hardware improves readiness by increasing reliability and by reducing associated supply and obsolescence issues.

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Procure hardware for Hydraulic/Electrical Upgrade test vehicles. | 250 | 0 | 0 |
| Program Management. PM staff, matrix support and administrative support. | 1115 | 0 | 0 |
| Testing. To procure test SSP (Supply Support Package) and support all test requirements. (Hydraulic/Electrical Upgrade) | 300 | 0 | 0 |
| Logistics efforts including development of technical manual changes for hydraulic/electrical upgrade. | 2000 | 0 | 0 |
| Engineering, techical Data Package Development and Documentation for hydraulic/electrical upgrade. | 2385 | 0 | 0 |
| Hydropneumatic suspension engineering development effort. | 1601 | 0 | 0 |
| Totals | 7651 | 0 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604649A - ENGINEER MOBILITY EQUIPMENT DEVELOPMENT** | **G29** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 7786 | 0 | 0 |
| Current Budget (FY 2005 PB) | 7651 | 0 | 0 |
| Total Adjustments | -135 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -135 | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| PA, WTCV, GZ3000, AVLB MOD | 9853 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 330130 |

**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 are accomplished with a horizontal contracting initiative using an existing contract with General Dynamics Land Systems (GDLS). Tailored testing will be performed to ensure performance, durability and safety. Procurement funding buys kit hardware and funds application in the field at unit location by contractor teams.

Anniston Army Depot will overhaul hydraulic cylinders and reservoirs that will be provided to GDLS for application with upgrade.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 31687 | 38816 | 24693 | 33561 | 34951 | 34230 | 10670 | 0 | 252674 |
| L67 | SOLDIER NIGHT VISION DEVICES | 5824 | 10327 | 12169 | 16099 | 17181 | 19809 | 0 | 0 | 81409 |
| L69 | HTI 2D GEN FLIR ED | 5668 | 1682 | 0 | 0 | 0 | 0 | 0 | 0 | 15216 |
| L70 | NIGHT VISION DEV ED | 6143 | 10338 | 10333 | 17462 | 17770 | 14421 | 10670 | 0 | 112045 |
| L75 | PROFILER | 6479 | 4097 | 0 | 0 | 0 | 0 | 0 | 0 | 21259 |
| L76 | LONG RANGE ADVANCED SCOUT SURVEILLANCE SYSTEM - FS | 7573 | 12372 | 2191 | 0 | 0 | 0 | 0 | 0 | 22745 |

**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 Future Force soldiers. 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 Future Force platforms. This project includes night vision sensor acquisition support of FCS core systems, Risk Reduction Demonstration of standard uncooled thermal sensor packages, Sense Through The Wall programs, Unattended Ground Sensor systems and common sensor message set management for FCS and other applications. The project also supports upgrades to existing ground surveillance radars and preparation for production of lightweight countermortar radars. 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 more accurate meteorological data and for the first time accurate target area 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 36581 | 29022 | 22399 |
| Current Budget (FY 2005 PB) | 31687 | 38816 | 24693 |
| Total Adjustments | -4894 | 9794 | 2294 |
| Congressional program reductions | | -393 | |
| Congressional rescissions | | -13 | |
| Congressional increases | | 10200 | |
| Reprogrammings | -4894 | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 2294 |

Change Summary Explanation:
FY2003: Funds were reprogrammed for higher priority efforts.
FY2004: Congressional increase of $10.2m
$1.1M in Project L67 for ENVG.
$1.7M in Project L69 for Avenger upgrade.
$7.4M in Project L76 for Multi-Platform Replacement Sight (MRS) (This belongs in DL70)
FY2005: $2.7m 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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L67** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 5824 | 10327 | 12169 | 16099 | 17181 | 19809 | 0 | 0 | 81409 |

**A. Mission Description and Budget Item Justification:** This project develops, improves and miniaturizes high performance night vision electro-optics, thermal and laser systems. It also provides for systems integration of related multi-sensors suites to enable near to long-range target acquisition and engagement as well as improved battlefield command and control in "around-the-clock" combat operations. It focuses on technology that can bring an immediate improvement to the dismounted Soldiers' equipment. It develops or enhances equipment that provides the individual Soldier day/night situational awareness and individual targeting capability. Provides development money to integrate improved target location and self-location capability to eliminate friendly fire incidents. 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 Soldier. Other efforts include a miniaturized laser designating system for a variety of ground Soldier systems, small Unmanned Aerial Vehicle (UAV), and other air platforms. This project supports the current to future transformation path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue development of next generation Enhanced Night Vision Goggles (ENVG) to give Soldiers the ability to use both image intensifier and uncooled thermal technologies during day or night operations. | 2553 | 3464 | 5101 |
| Complete development of the Small Tactical Optical Ranging Module (STORM) micro-Laser Range Finder, which will provide Soldiers the ability to perform target location from individual weapons. | 901 | 2747 | 1844 |
| Complete Thermal Upgrade activities (prototype test and evaluation), which enhanced the combat effectiveness of Thermal Weapon Sight (TWS) Heavy/Medium/Light systems. | 1202 | 531 | 0 |
| Continue development of the Dismounted Optics, which will yield a miniature laser designator for the individual Soldier. | 1168 | 2763 | 4081 |
| Improve target location error and begin development of a non-magnetic compass for the Lightweight Laser Designation Rangefinder (LLDR). | 0 | 522 | 1143 |
| Small Business Innovative Research/ Small Business Technology Transfer Programs (SBIR/STTR). | 0 | 300 | 0 |
| Totals | 5824 | 10327 | 12169 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| AN/PVS-7 Aid (K36400) OPA2 | 70648 | 114715 | 74577 | 70174 | 92215 | 137600 | 111878 | Continuing | Continuing |
| Thermal Weapon Sight (TWS) (K22900) OPA2 | 73862 | 128529 | 52078 | 78156 | 84553 | 69686 | 70878 | Continuing | Continuing |
| Lightweight Laser Designator Rangefinder (LLDR) (K31100) OPA2 | 9693 | 12211 | 12339 | 12480 | 19837 | 19381 | 19901 | Continuing | Continuing |
| Infrared Aiming Light (K35000) OPA2 | 11482 | 12891 | 9273 | 14074 | 14261 | 9055 | 4430 | Continuing | Continuing |

**C. Acquisition Strategy:** The development programs in this project are currently based on competitive awards.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1773 | 2Q | 1267 | 1-3Q | 3663 | 1-3Q | Continue | 6703 | 0 |
| b . STORM micro-Laser Range Finder Activity | C/CP | Fibertek, Inc. - Herndon, VA | 0 | 200 | 2Q | 1884 | 2-3Q | 926 | 1-3Q | Continue | 3010 | 0 |
| c . Thermal Upgrades for TWS | C/CP | Nytech - Torrence, CA / BAE - Lexington, MA | 0 | 250 | 2Q | 300 | 2-3Q | 0 | | 0 | 550 | 0 |
| d . Light Forward Observers Optics Activity | C/CP | Performance Learning (GSA) Alexandria, VA | 0 | 0 | 2Q | 1469 | 1-3Q | 3596 | 1-3Q | Continue | 5065 | 0 |
| e . Focal Plane Arrays Activity | C/CP | DRS - Torrence, CA / NVESD - Fort Belvoir, VA | 0 | 1500 | 3Q | 0 | | 0 | | 0 | 1500 | 0 |
| f . Target Acquisition Laser Activity | C/CP | NVESD - Fort Belvoir, VA | 0 | 297 | 4Q | 500 | 1-3Q | 1009 | 1-3Q | Continue | 1806 | 0 |
| g . SBIR/STTR | | Various | 0 | 0 | | 300 | 2Q | 0 | | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 4020 | | 5720 | | 9194 | | Continue | 18934 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 230 | 2Q | 291 | 1-2Q | 394 | 1-2Q | Continue | 915 | 0 |
| b . GSA Support | GSA Contract | GSA - Alexandria, VA | 0 | 0 | 1Q | 200 | | 516 | 1-2Q | Continue | 716 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 230 | | 491 | | 910 | | Continue | 1631 | 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 | 1456 | 2-4Q | 3983 | 2-3Q | 1855 | 1-3Q | Continue | 7294 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1456 | | 3983 | | 1855 | | Continue | 7294 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Sensors and Lasers | 0 | 118 | 1-4Q | 133 | 1-4Q | 210 | 1-4Q | Continue | 461 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 118 | | 133 | | 210 | | Continue | 461 | 0 |
| Project Total Cost: | | | 0 | 5824 | | 10327 | | 12169 | | Continue | 28320 | 0 |

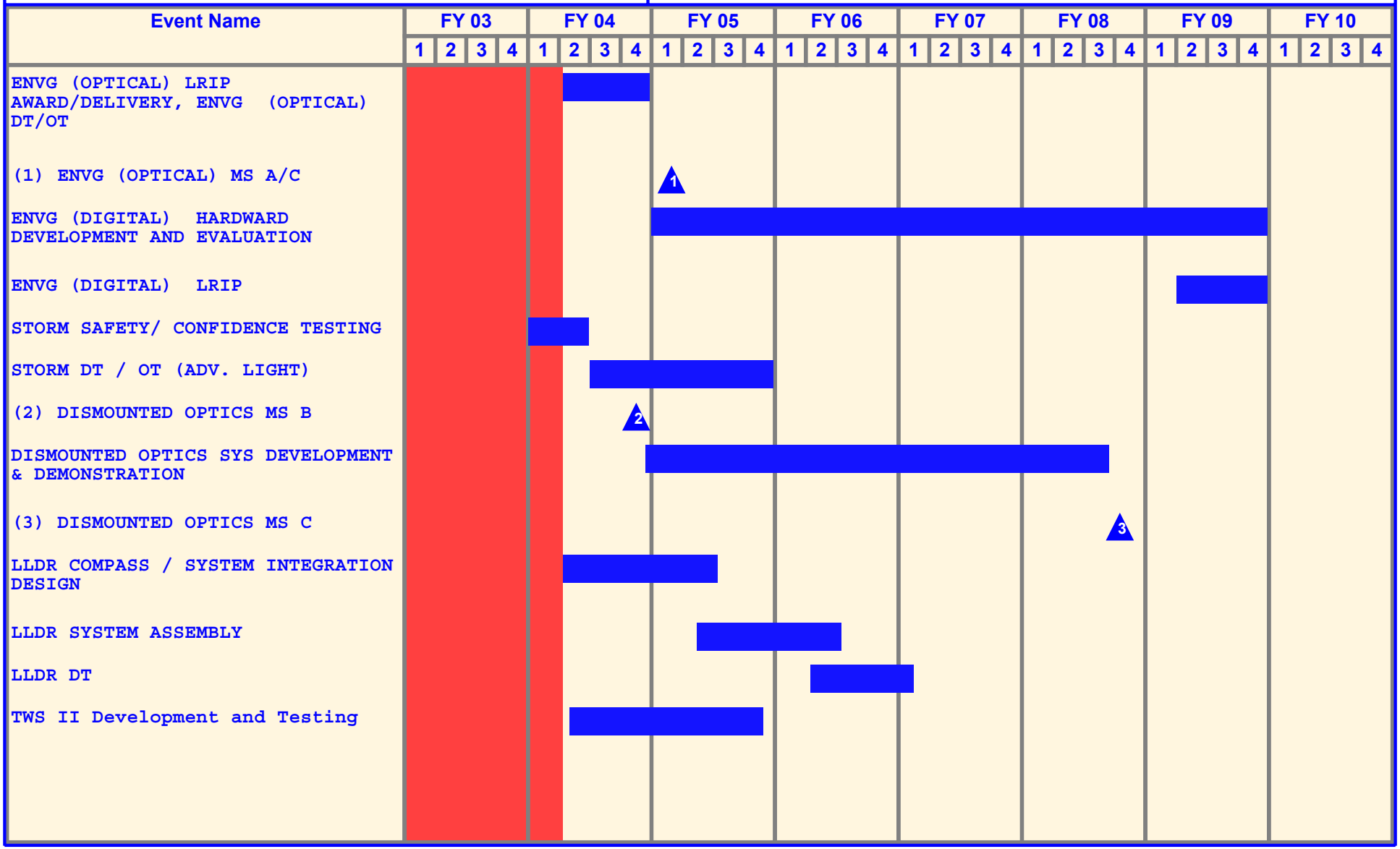
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L67**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L67** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Enhanced Night Vision Goggles (ENVG) development | 2Q | 1-4Q | 1-4Q | 1-3Q | 1-4Q | 1-4Q | 1-4Q |
| Development of the Small Tactical Optical Ranging Module (STORM) | 2Q | 1-4Q | 1-3Q | | | | |
| Thermal Upgrade target location display capability demonstration and TWS II Testing | 2Q | 2-4Q | | | | | |
| Development of miniature laser designators | 2-3Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | |
| ILWLP development activity | | 1-4Q | 1-4Q | | | | |
| LLDR target location error and non-magnetic compass activity | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L70** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 6143 | 10338 | 10333 | 17462 | 17770 | 14421 | 10670 | 0 | 112045 |

**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 Future Force Unit of Action/Unit of Employment systems. Efforts will continue to refine a standard architecture among sensors with the Sensor Link Protocol (evolving to a joint message set called Sensor Data Link) to allow these sensors to communicate in a plug and play manner for improved force level sensor data fusion, aided target recognition and target hand-off.

This project will also demonstrate the producibility of uncooled thermal focal plane arrays, and develop an uncooled infrared imaging B-Kit sensor 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, use less power, and are less expensive. Uncooled B-Kits can be used for a variety of FCS and Future 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 develops, demonstrates and tests Sense Through the Wall (STTW) technology in support of Future Combat System. This will leverage earlier technology base efforts for an Unmanned and Limited Stand-Off capability of detecting personnel and weapons through a wall.

This project continues Unattended Ground Sensors (UGS) hardware development, demonstration and test for a family of UGS systems for Intelligence, Surveillance and Reconnaissance (ISR). This will provide FCS and the Army an Unattended Ground Sensor capability for ISR and physical security.

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 Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

FY05 funding supports continuation of Unattended Ground Sensors and Uncooled B Kit development, UAV Payload development and repackaging efforts, and Sensor Link Protocol maintenance.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L70** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue multisensor upgrade activities for Dismounted Optics. | 1347 | 0 | 0 |
| Conduct System Development and Demonstration (SDD) for Digital RSTA RAPT. This program was terminated during FY03. | 936 | 0 | 0 |
| Continue Sensor Link Protocol (SLP) as part of the DoD Joint Variable Message Format (JVMF) 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 Future Force and FCS. Two man-year effort in FY04/05 will complete initial JVMF acceptance and provide SLP maintenance. | 995 | 340 | 340 |
| Completed development of 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. | 450 | 0 | 0 |
| Continue 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, power, weight and volume. This effort is the risk reduction demonstration for B-Kit development on FCS and Future Force Systems. | 0 | 1372 | 1845 |
| Unattended Ground Sensors (UGS) – Develop ISR, CBRN and Urban UGS for FCS and other Army customers. Funds continuing spiral technology integration efforts. | 2415 | 2495 | 3501 |
| Cooled IR Integrated Sensor Suites (CIRISS). Provide System Development and Demonstration acquisition and technical support to PM FCS on primary night vision, reconnaissance, surveillance, and target acquisition sensor suites. | 0 | 1600 | 0 |
| Development of payloads for the Army's Unmanned Air Vehicle (UAV) in accordance with TRADOC priorities and in support of Future Combat System (FCS). | 0 | 1941 | 4647 |
| Ground Moving Target Indicator (GMTI) Radar - complete productization and testing of improved performance radar. Improvements include reduced size and weight, material updates, and operational mode expansion. | 0 | 2112 | 0 |
| Lightweight Counter Mortar Radar (LCMR) - support preparation for MS C production decision. | 0 | 212 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 266 | 0 |
| Totals | 6143 | 10338 | 10333 |

| B. Other Program Funding Summary | 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 | 38499 | 43133 | 59386 | 69771 | 90568 | 127971 | 110756 | Continuing | Continuing |
| Night Vision TWS K22900 OPA2 | 50662 | 50504 | 67472 | 78233 | 84524 | 69681 | 70712 | Continuing | Continuing |
| Night Vision DVE K31300 OPA2 | 1883 | 8899 | 8597 | 20088 | 25336 | 25194 | 26097 | Continuing | Continuing |
| Night Vision LLDR K31100 OPA2 | 9693 | 12302 | 17431 | 17495 | 27233 | 33145 | 33839 | Continuing | Continuing |
| Future Combat System, G86100 WTCV | 0 | 0 | 225289 | 829206 | 1638022 | 3562240 | 2918987 | Continuing | Continuing |
| Infrared Aiming Light K35000 OPA2 | 6257 | 4847 | 7384 | 14091 | 14263 | 3933 | 3894 | Continuing | Continuing |
| Digital RSTA K28808 OPA2 | 0 | 292 | 0 | 0 | 0 | 0 | 0 | 0 | 292 |

**C. Acquisition Strategy:** The development programs in this project are currently based on competitive awards and under cost reimbursement type contracts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Modular HTI Multifunction Laser Activities | C/CP | Insight Technologies, Londonderry, NH & DRS Technologies, Torrence, CA | 3868 | 0 | | 0 | | 0 | | 0 | 3868 | 3868 |
| c . LLDR RAPT | C/CP | Various | 4253 | 0 | | 0 | | 0 | | 0 | 4253 | 4253 |
| d . Light Forward Observer Optics | C/CP | Various | 300 | 958 | 2Q | 0 | | 0 | | 0 | 1258 | 1258 |
| e . Thermal Upgrades for DVE (Dual wavelength) and competition | C/CP | Kaiser Electric San Diego, CA, Various | 3608 | 0 | | 0 | | 0 | | 0 | 3608 | 3608 |
| f . LLDR Advanced Demonstration System | C/CP | Litton Laser, Apopka, FL | 2556 | 0 | | 0 | | 0 | | 0 | 2556 | 2556 |
| g . Sensor Architecture/Digital RSTA/SLP | C/CPIF & C/CP | Various | 9498 | 915 | 2Q | 340 | 1Q | 340 | 1Q | Continue | Continue | Continue |
| h . Various Prototypes and Studies | C/CPIF | Various | 2947 | 0 | | 0 | | 0 | | 0 | 2947 | 2947 |
| i . Thermal Upgrades for TWS (target location) | C/CP | Raytheon, El Segundo, CA, Various | 5811 | 0 | | 0 | | 0 | | 0 | 5811 | 5811 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . HTI Laser Trade Studies | C/CP | Various | 1020 | 0 | | 0 | | 0 | | 0 | 1020 | 1020 |
| k . Enhanced NVG Analysis & Design (TX to DL67) | C/CP | Various | 4782 | 0 | | 0 | | 0 | | Continue | Continue | Continue |
| l . HTI Laser MFS3 design and prototype activities | C/CPIF | Raytheon, Dallas,TX | 565 | 0 | | 0 | | 0 | | 0 | 565 | 565 |
| m . MANTECH Focal Plane Array and optics | C/CP | Raytheon, Dallas, TX | 1500 | 0 | | 0 | | 0 | | 0 | 1500 | 1500 |
| n . Digital MELIOS Design & Fabrication | C/FP | Litton Lasers, Inc. | 1000 | 0 | | 0 | | 0 | | 0 | 1000 | 1000 |
| o . SBIR/STTR | | | 0 | 0 | | 266 | | 0 | | 0 | 266 | 266 |
| p . AN/TMQ-41 Trade Studies and related activities | C/CP | Various | 1232 | 0 | | 0 | | 0 | | 0 | 1232 | 1232 |
| q . Image Fusion for DVE | C/CP | Raytheon, Dallas, TX | 1274 | 0 | | 0 | | 0 | | 0 | 1274 | 1274 |
| r . Digital RSTA SDD | C/CP | Booz-Allen Hamilton, Tysons Conner, VA | 1514 | 676 | 2Q | 0 | | 0 | | 0 | 2190 | 2190 |
| s . CIRISS Efforts | C/CP | Various | 0 | 0 | | 1500 | 1Q | 0 | | 0 | 1500 | 1500 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| t . LLDR Vehicle applications | C/CP | Litton Laser, Apopka, FL Various | 3487 | 0 | | 0 | | 0 | | 0 | 3487 | 3487 |
| u . FLIR develop/integrate | Various | Various | 1281 | 450 | 1-2Q | 0 | | 0 | | 0 | 1731 | 1731 |
| v . Uncooled B-Kit | C/CP | CACI, Manassas, VA | 0 | 0 | | 1440 | 2Q | 1745 | 1Q | Continue | Continue | Continue |
| w . Lightweight Counter Mortar Radar | C/CP | TBS | 0 | 0 | | 212 | 2Q | 0 | | 0 | 212 | 0 |
| x . EO/IR/LD UAV Payloads | C/CP | TBS | 0 | 0 | | 1783 | | 3793 | 1Q | Continue | Continue | Continue |
| y . LLDR EMD | C/CP | Litton Lasers, Apopka, FL | 19873 | 0 | | 0 | | 0 | | 0 | 19873 | 19873 |
| z . GMTI Radar | C/FP & CP | TBS | 0 | 0 | | 1712 | 2Q | 0 | | 0 | 1712 | 1712 |
| aa. UGS | CP/FFP | Various | 0 | 708 | 2-3Q | 0 | | 0 | | 0 | 708 | 708 |
| bb. FCS UGS | C/CP | FCS Boeing/Textron | 0 | 1456 | 4Q | 1919 | 2Q | 2803 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 92200 | 5163 | | 9172 | | 8681 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 555 | 1-2Q | 846 | 1Q | 1007 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12940 | 555 | | 846 | | 1007 | | 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 . DT/IOT&E* | MIPR | ATEC | 8769 | 0 | | 0 | | 0 | | 0 | 8769 | 8769 |
| b . Other Test Support* | MIPR | Various | 3966 | 250 | 2Q | 150 | 2Q | 350 | 2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 12735 | 250 | | 150 | | 350 | | Continue | Continue | Continue |

Remarks: * Includes TWS, DVE, LLDR and other sensor test and evaluation activities

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 & Ft. Monmouth, NJ | 4283 | 175 | 1Q | 170 | 1Q | 295 | 1Q | Continue | 4923 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4283 | 175 | | 170 | | 295 | | Continue | 4923 | Continue |
| Project Total Cost: | | | 122158 | 6143 | | 10338 | | 10333 | | Continue | Continue | Continue |

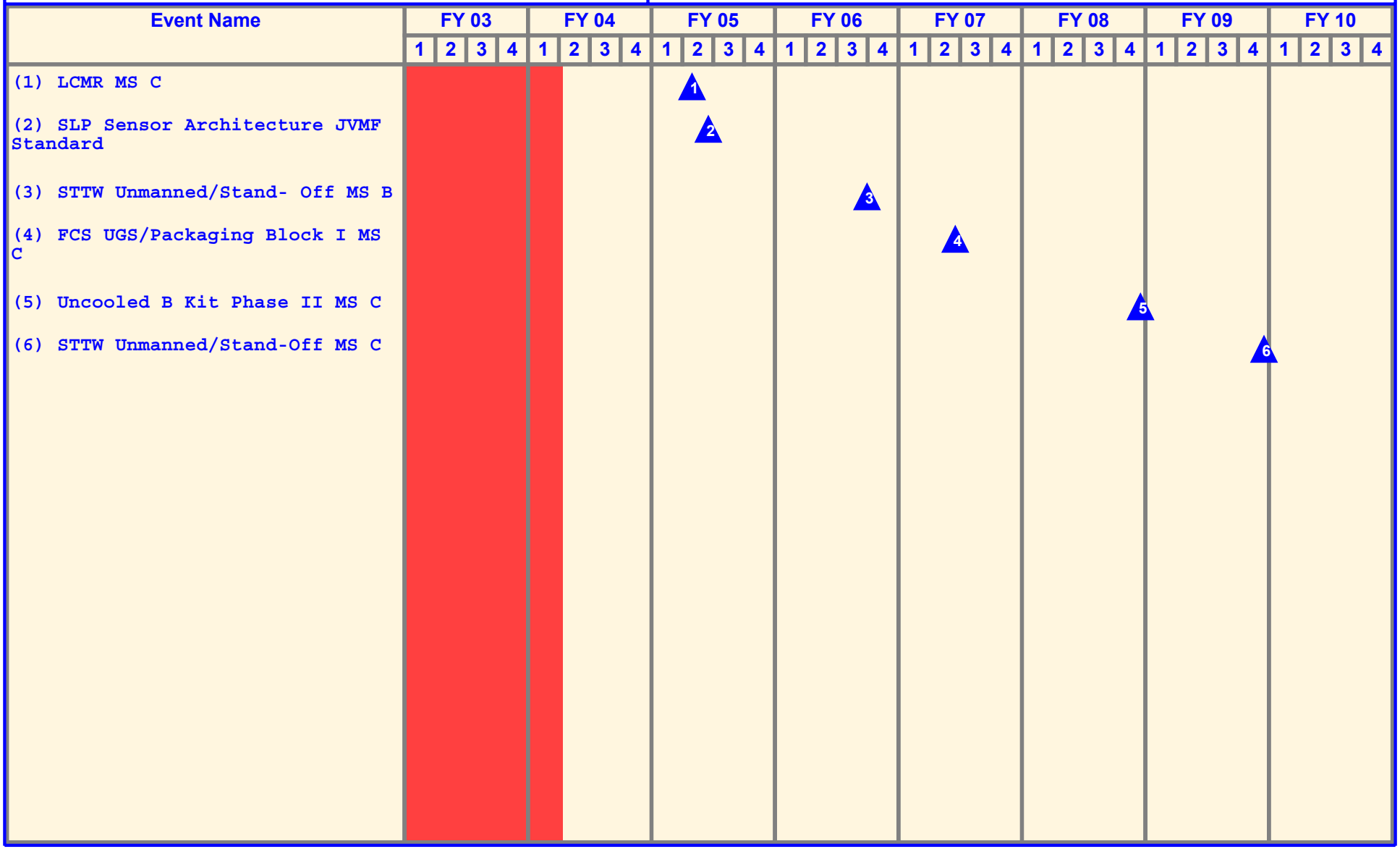
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L70**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L70** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Light Forward Observer Optics application | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Uncooled B-Kit Risk Reduction Demonstration | | 2Q | | | | | |
| STTW Unmanned MS B for FCS UA | | | | 3Q | | | |
| Foliage Penetration (FOPEN) MS B for FCS Block II | | | | | | 2Q | |
| Close Surveillance Support System MS B | | | | 2Q | | | |
| 3rd Gen FLIR MS B | | | | | 1Q | | |
| Sense Through the Wall Stand-off (STTW) MS B | | | | 4Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L75** |

| COST (In Thousands) | FY 2003 Actual | 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 | 6479 | 4097 | 0 | 0 | 0 | 0 | 0 | 0 | 21259 |

**A. Mission Description and Budget Item Justification:** The AN/TMQ-52 Meteorological Measuring Set-Profiler (MMS-P) is a replacement for the current Meteorological Measuring Set (MMS), AN/TMQ-41. Profiler uses a suite of meteorological (MET) sensors and MET data from communication satellites along with an advanced weather model to provide highly accurate met data out to a range of 500km. Currently, MMS data regardless of its' staleness is considered accurate only to 20km from balloon launch site and cannot provide target area MET data. Profiler provides all weather conditions affecting munitions including information on wind speed, wind direction, temperature, pressure, relative humidity, rate of precipitation, visibility, and cloud ceiling height needed for precision targeting and terminal guidance. By providing more accurate MET messages, Profiler will enable the artillery to have a greater probability of a first round hit with indirect fire systems than is achievable with the current MMS. The new capabilities will increase the lethality of field artillery systems such as Multiple Launch Rocket Systems, towed and self-propelled cannons. This effort will increase the accuracy of a wide range of deep fire weapons and munitions.

These system modifications support the Current Force transition path of the Transformation Campaign Plan (TCP).

There is no FY05 funding request.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Performed Software Qualification Testing. Conducted successful Milestone C Decision Review. Continue MMS-P SDD development effort, including software and hardware integration, and fabrication of four units for contractor testing. | 5889 | 1955 | 0 |
| Completed System Functional Demonstration. | 150 | 0 | 0 |
| Conduct Developmental Test (DT) for system meteorological accuracy. | 340 | 570 | 0 |
| Conduct Initial Operational Test & Evaluation (IOT&E) activities. | 100 | 1500 | 0 |
| Undistributed Congressional Adjustments | 0 | 72 | 0 |
| Totals | 6479 | 4097 | 0 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Profiler K27900 OPA2 | 4088 | 12498 | 4963 | 4994 | 0 | 0 | 0 | 0 | 26543 |

**C. Acquisition Strategy:** The 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. Milestone C approval for LRIP was granted in May 03. Milestone C approval for LRIP was granted in May 03. An option for four (4) units was awarded in Jan 04 following successful Reliability Testing. A second option will be awarded for the additional six (6) systems in Apr 04 following Developmental Testing (DT).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . SDD Contract | C/CPIF | Smiths Detection, Edgewood, MD | 8862 | 4395 | 1-2Q | 1742 | 1-2Q | 0 | | 0 | 14999 | 14950 |
| b . SDD T&M | C/T&M | Smiths Detection, Edgewood, MD | 0 | 103 | | 0 | | 0 | | 0 | 103 | 0 |
| c . Studies and Simulations | MIPR | Army Research Lab | 239 | 190 | 1Q | 0 | | 0 | | 0 | 429 | 0 |
| d . Government Furnished Equipment | MIPR | HQCPSQ/ZJ, San Antonio, TX | 120 | 0 | | 0 | | 0 | | 0 | 120 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9221 | 4688 | | 1742 | | 0 | | 0 | 15651 | 14950 |

| 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 | 207 | 1Q | 132 | 1Q | 0 | | 0 | 2063 | 0 |
| b . Sys Engr/Tech Assist | C/T&M | Various | 1011 | 183 | 2Q | 128 | 1-2Q | 0 | | 0 | 1322 | 0 |
| c . OGA | MIPR | Various | 1089 | 0 | | 0 | | 0 | | 0 | 1089 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 390 | | 260 | | 0 | | 0 | 4474 | 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 | 497 | 1-2Q | 380 | 1Q | 0 | | 0 | 942 | 0 |
| b . Developmental Testing | MIPR | ATEC, Various | 0 | 681 | 2-3Q | 368 | 1Q | 0 | | 0 | 1049 | 0 |
| c . Initial Operational Test & Evaluation | MIPR | ATEC, Various | 0 | 0 | | 1200 | 1-3Q | 0 | | 0 | 1200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 65 | 1178 | | 1948 | | 0 | | 0 | 3191 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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/TIMS, Fort Monmouth, NJ | 623 | 223 | 1-4Q | 124 | 1-4Q | 0 | | 0 | 970 | 0 |
| b . Undistributed Congressional Adjustments | Adjustments | PM Nav Sys/TIMS, For tMonmouth, NJ | 0 | 0 | 2Q | 23 | | 0 | | 0 | 23 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 623 | 223 | | 147 | | 0 | | 0 | 993 | 0 |
| Project Total Cost: | | | 13733 | 6479 | | 4097 | | 0 | | 0 | 24309 | 14950 |

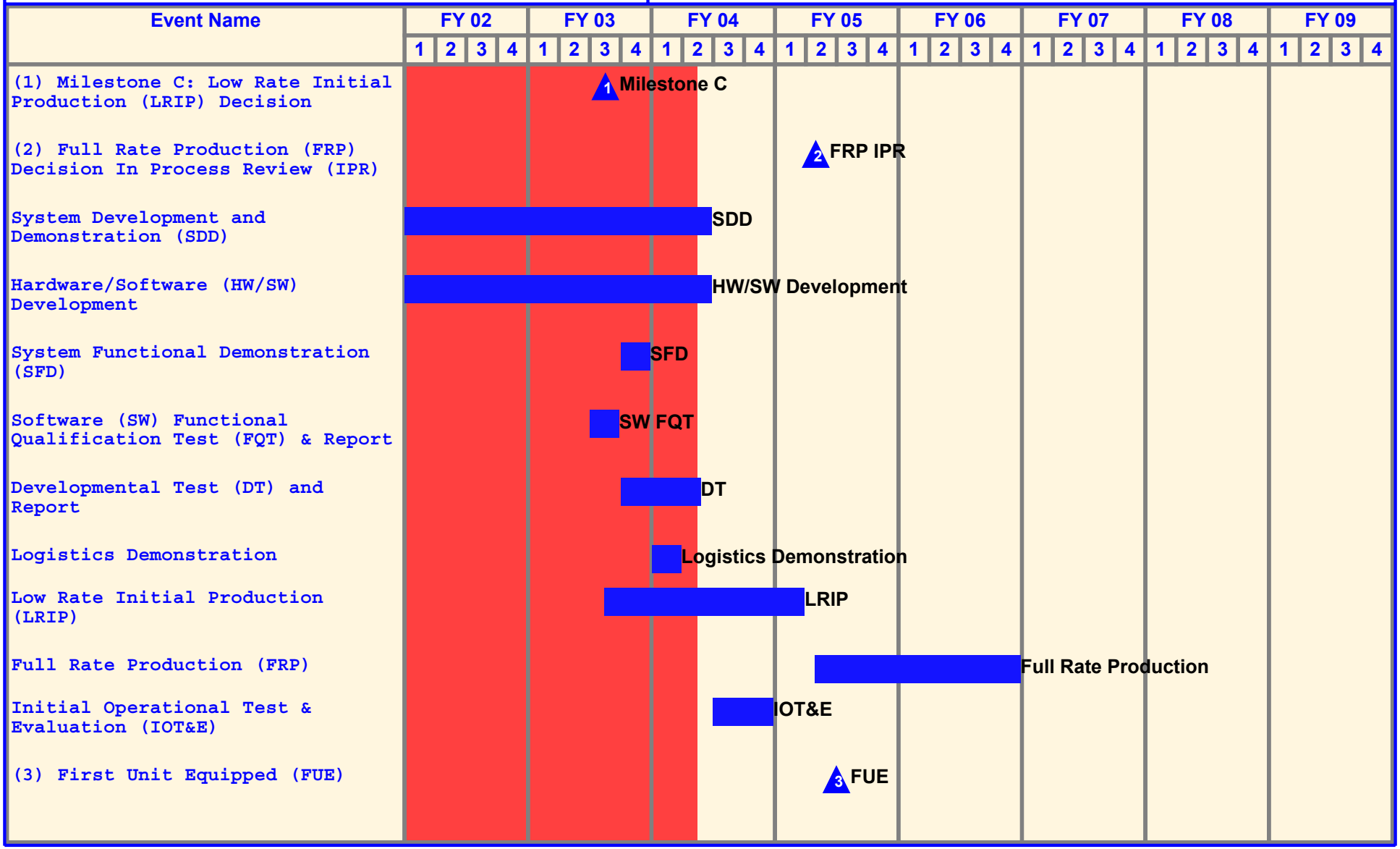
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L75**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L75** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Continue SDD HW/SW development phase. | 1-4Q | 1-2Q | | | | | |
| System Functional Demonstration | 3Q | | | | | | |
| MS C LRIP Decision | 3Q | | | | | | |
| SW FQT and Report. | 4Q | | | | | | |
| Conduct Developmental Test | 4Q | 1-2Q | | | | | |
| Low Rate Initial Production (LRIP) | 3-4Q | 1-4Q | 2Q | | | | |
| Full Rate Production | | | 2Q | | | | |
| First Unit Equipped | | | 2Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L76** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| L76 | LONG RANGE ADVANCED SCOUT SURVEILLANCE SYSTEM - FS | 7573 | 12372 | 2191 | 0 | 0 | 0 | 0 | 0 | 22745 |

**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). Congressional add in FY04 for Multi-Platform Replacement Sight to design and fabricate prototypes as direct replacements to existing combat vehicle sights.

The FY05 funds are for qualification validation tests to include a reliability growth test, and resolution of initial corrective actions.

This system supports the Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Design the modifications necessary to integrate the LDM with the LRAS3. | 5379 | 2116 | 0 |
| Fabricate eight prototype sensors, using borrowed GFE. | 993 | 708 | 0 |
| Conduct contractor prototype qualifications. | 367 | 274 | 0 |
| Conduct system/platform Integration and Test (I&T). | 420 | 1107 | 0 |
| Conduct Government Development Test and User Excursion. | 200 | 75 | 0 |
| Logistics Support and Logistics Demonstration | 214 | 496 | 0 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Qualification Validation Test and implement corrective actions | 0 | 325 | 2191 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 307 | 0 |
| Design A-Kit for Multi-Platform Replacement Sight (MRS) | 0 | 2819 | 0 |
| Fabricate 8 prototypes of A-Kit and B-Kit for MRS | 0 | 1727 | 0 |
| Integration and Test of MRS prototypes | 0 | 987 | 0 |
| MRS Vehicle Integration | 0 | 574 | 0 |
| Government Vehicle Testing for MRS | 0 | 857 | 0 |
| Totals | 7573 | 12372 | 2191 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| LRAS3 K38300 OPA2 | 46577 | 50593 | 49176 | 42293 | 1734 | 0 | 0 | 0 | 190373 |

**C. Acquisition Strategy:** The development of the Fire Support Sensor System is being executed through a Cost Plus Fixed Fee (CPFF) modification to the LRAS3 Fixed Price production contract. The development effort will lead to a production implementation through an Engineering Change Proposal (ECP) and Fixed Price adjustments. This ECP will then be applied to the LRAS3, M707 Knight, and Stryker BCT (FSV) programs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . FS3 Development | T&M | Raytheon Inc., McKinney TX | 561 | 1785 | 1Q | 0 | | 0 | | 0 | 2346 | 2346 |
| b . FS3 Development | CPFF | Raytheon Inc., McKinney, TX | 0 | 4391 | 1Q | 2989 | 1Q | 0 | | 0 | 7380 | 5478 |
| c . FS3 Development | FFP | Raytheon, Inc., McKinney, TX | 0 | 0 | | 1312 | 1Q | 1866 | 1Q | 0 | 3178 | 3198 |
| d . SBIR/STTR | | | 0 | 0 | | 307 | | 0 | | 0 | 307 | 0 |
| e . Multi-Platform Replacement Sight (MRS) | CPFF | Penn State Univ EOC, PA | 0 | 0 | | 6156 | 3Q | 0 | | 0 | 6156 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 561 | 6176 | | 10764 | | 1866 | | 0 | 19367 | 11022 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L76**

| 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 | 447 | 1Q | 623 | 1Q | 125 | 1Q | 0 | 1208 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13 | 447 | | 623 | | 125 | | 0 | 1208 | 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 | 0 | 0 | | 50 | 1Q | 0 | | 0 | 50 | 0 |
| b . Government Development and Operational Tests | MIPR | ATEC | 0 | 165 | 1Q | 0 | | 0 | | 0 | 165 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 165 | | 50 | | 0 | | 0 | 215 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L76**

| 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 | PM NV/RSTA, Fort Belvoir VA | 35 | 785 | 1Q | 935 | 1Q | 200 | 1Q | 0 | 1955 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 35 | 785 | | 935 | | 200 | | 0 | 1955 | 0 |
| Project Total Cost: | | | 609 | 7573 | | 12372 | | 2191 | | 0 | 22745 | 11022 |

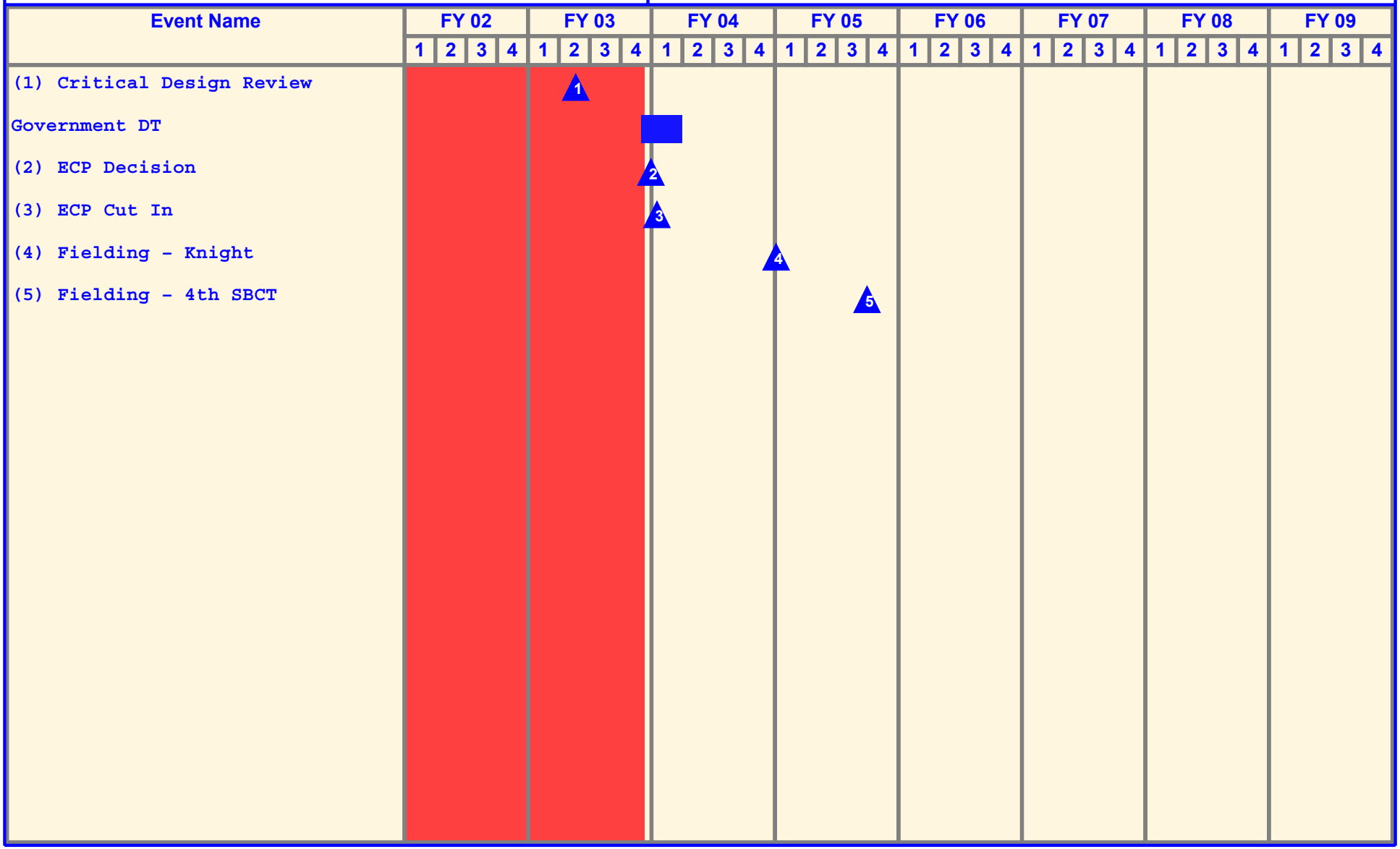
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604710A - Night Vision Systems - Eng Dev**

PROJECT
**L76**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604710A - Night Vision Systems - Eng Dev** | **L76** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Design Activities | 1-4Q | 1Q | | | | | |
| Critical Design Review | 2Q | | | | | | |
| Prototype Fabrication Activities | 2-4Q | 1Q | | | | | |
| Qualification Testing | 4Q | 1Q | | | | | |
| Conduct DT and UE | 4Q | 1-2Q | | | | | |
| ECP Decision | 4Q | | | | | | |
| ECP cut-in | | 1Q | | | | | |
| Logisitics Demonstration | | 3Q | | | | | |
| First Fielding - Knight | | 4Q | | | | | |
| Validation testing and implement corrective actions | | 4Q | 1-4Q | | | | |
| Fielding - 4th SBCT | | | 3Q | | | | |
| Design A-Kit for MRS | | 3-4Q | 1Q | | | | |
| Preliminary Design Review | | 3Q | | | | | |
| Critical Design Review | | 4Q | | | | | |
| MRS Prototype Fabrication Activities | | 4Q | 3Q | | | | |
| Vehicle Integration of MRS | | | 3-4Q | | | | |
| MRS Government Vehicle Testing | | | 4Q | 1Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 80989 | 98960 | 115093 | 130455 | 143786 | 156757 | 114825 | Continuing | Continuing |
| 548 | MIL SUBSISTENCE SYS | 1711 | 1964 | 2034 | 3450 | 2923 | 2441 | 2439 | Continuing | Continuing |
| 667 | LAND WARRIOR | 53949 | 81029 | 91279 | 104793 | 115729 | 128791 | 86853 | Continuing | Continuing |
| 668 | SOLDIER ENHANCE PGM | 9935 | 10039 | 15859 | 13975 | 15909 | 16073 | 16163 | Continuing | Continuing |
| C40 | SOLDIER SUPPORT EQUIPMENT - ED | 11003 | 2860 | 574 | 297 | 298 | 298 | 297 | Continuing | Continuing |
| L40 | CLOTHING & EQUIPMENT | 4391 | 3068 | 5347 | 7940 | 8927 | 9154 | 9073 | Continuing | Continuing |

**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 project supports the Stryker Brigade Combat Team (SBCT) and Future Force Capabilities for projecting and sustaining Joint Expeditionary Forces.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 86449 | 67283 | 66748 |
| Current Budget (FY 2005 PB) | 80989 | 98960 | 115093 |
| Total Adjustments | -5460 | 31677 | 48345 |
| Congressional program reductions | | -941 | |
| Congressional rescissions | | | |
| Congressional increases | | 32717 | |
| Reprogrammings | -5460 | -99 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 48345 |

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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **548** |

| COST (In Thousands) | FY 2003 Actual | 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 | 1711 | 1964 | 2034 | 3450 | 2923 | 2441 | 2439 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports the development and demonstration 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, enhance safety in food service, and decrease fuel and water requirements. This project develops critical enablers that support the Army's Future Force Capabilities and Joint Expeditionary Mindset by maintaining readiness through fielding and integrating new equipment, by enhancing the field soldier's well-being and providing soldier usable equipment, and 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 Stryker Brigade Combat Team (SBCT) and Future Force Capabilities for projecting and sustaining Joint Expeditionary Forces.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Conducted testing for cold-weather operation of the Modern Burner Unit (MBU), and initiated design for thermostatic control. Analyzed combustion by-products in the kitchen environment for design of ventilation configuration. | 461 | 0 | 0 |
| FY 03: Tested two new/advanced food service equipment items for shipboard applications. Conducted technical and user testing and listed four items in the Navy Food Service Equipment Catalog. Continued development of the stainless steel lined oven and modular ovens for submarines. Conducted New Equipment Training (NET) for the Navy Food Service Equipment. FY 04: 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. FY 05: Initiate programs for preservation of fresh fruit and vegetables, modernization of food service equipment and shipboard ice makers. These programs are all aimed at reduction of shipboard manpower and improving the quality of life for the sailor. | 358 | 334 | 587 |
| FY 03: Completed fabrication and conducted technical evaluations on prototype kitchen International Standardization Organization (ISO) container to be compatible with the Army's Load Handling System (LHS) without the need for additional material handling equipment. | 237 | 0 | 0 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Conducted an analysis of Single Pallet Expeditionary Kitchen (SPEK) to determine upgrades requires to prepare A-rations. Developed equipment designs for oven and griddle. FY 04-05: Fabricate and test oven and griddle, prepare final designs and conduct technical and user tests. Upgrade Technical Data Package (TDP) for procurement by the Air Force. | 71 | 204 | 236 |
| FY 03: Completed in-house technical and user testing of upgraded Tray Ration Heater System to demonstrate enhanced mobility, increased ration preparation capability and cost savings. Developed a water recycling system for the Tray Ration Heater to conserve water and reduce wastewater disposal. FY 04: Complete testing, prepare technical data package and transition to Marine Corps and other services. | 249 | 203 | 0 |
| FY 03: Conducted equipment and ration evaluation with focus on optimizing the future Mobile Kitchen Trailer (MKT) configuration and initiated development of technical data necessary for incorporating advancements in a rebuild program. | 108 | 0 | 0 |
| FY 03: Completed the design analysis and initiated the fabrication of an Advanced Design Refrigerator (ADR1200) prototype that will maximize storage capabilities and enhance transportability and thermal efficiency. FY 05: Complete the fabrication and conduct developmental and operational testing; prepare performance specification and transition to the Air Force for procurement. | 227 | 0 | 81 |
| FY 04: Incorporate cold weather operation changes for the Modern Burner Unit (MBU) into the production contract, complete testing of the thermostatic control, and fabricate, test, and transition to production, the thermostatic control and prognostic contols for the MBU. | 0 | 293 | 0 |
| FY 04: Develop configuration design, procure Non Developmental Item (NDI) components, and initiate Developmental Testing of the highly mobile Assault Kitchen for feeding the Future Force. | 0 | 157 | 0 |
| FY 04-05: Continue to develop and evaluate improvements to fielded feeding systems as required by the services for integration into existing and future systems. | 0 | 157 | 161 |
| FY 04: Conduct Developmental Testing on the 8x8x10 refrigerated ISO container, prepare Performance Specification and transition to Marine Corps for procurement. | 0 | 150 | 0 |
| FY 04: Develop revisions to the configuration and conduct user evaluation of the Containerized Kitchen (CK) to accommodate the Heavy Expanded Mobility Tactical Truck Load Handling System (HEMTT-LHS) bail bar, and revise component listing of the CK and build a prototype for evaluation to facilitate its use with the Medical Command (MEDCOM). | 0 | 295 | 0 |
| FY 05: Conduct field evaluations of reconfigured CK with the MEDCOM. | 0 | 0 | 322 |
| FY 05: Fabricate and test a high output MBU for use in the Food Sanitation Center (FSC) and initiate development of an improved skillet for fielded kitchens that use the MBU. | 0 | 0 | 402 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 04: Complete development of technical data for use in a rebuild program that optimizes the future Mobile Kitchen Trailer (MKT) configuration. | 0 | 114 | 0 |
| FY 05: Complete Developmental and Operational Testing of the Assault Kitchen. | 0 | 0 | 245 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 57 | 0 |
| Totals | 1711 | 1964 | 2034 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603747.610, Food Adv Dev | 3509 | 3700 | 3901 | 3445 | 2667 | 3698 | 3789 | Continuing | Continuing |
| OPA3, M65803, Kitchen, Containerized, Field | 11984 | 7233 | 8081 | 10041 | 9999 | 10001 | 10082 | Continuing | Continuing |
| OPA 3, M65802, Sanitation Center, Field Feeding | 9616 | 8669 | 6098 | 8902 | 10379 | 9001 | 9302 | Continuing | Continuing |
| OPA3, M65801, Refrigerated Containers | 0 | 0 | 5884 | 9216 | 9169 | 9444 | 9761 | 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(R3)

**February 2004**

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 . Various combat feeding eq, multi-fuel and water eq | In-House | SBCCOM, NSC | 9439 | 725 | 1-4Q | 1086 | 1-4Q | 935 | 1-4Q | Continue | 12185 | Continue |
| b . Contracts | Various | Various | 2078 | 242 | 2-4Q | 395 | 1-4Q | 345 | 1-4Q | Continue | 3060 | Continue |
| c . PEO CS&CSS | In-House | PM Force Sustainment System (FSS) | 0 | 137 | 1-4Q | 120 | 1-4Q | 204 | 1-4Q | Continue | 461 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 11517 | 1104 | | 1601 | | 1484 | | Continue | 15706 | 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(R3)

**February 2004**

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/ATC | 3492 | 534 | 2-4Q | 274 | 1-4Q | 348 | 1-4Q | Continue | 4648 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3492 | 534 | | 274 | | 348 | | Continue | 4648 | 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 | 73 | 2-4Q | 89 | 1-4Q | 202 | 1-4Q | Continue | 1271 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 907 | 73 | | 89 | | 202 | | Continue | 1271 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 15916 | 1711 | | 1964 | | 2034 | | Continue | 21625 | Continue |

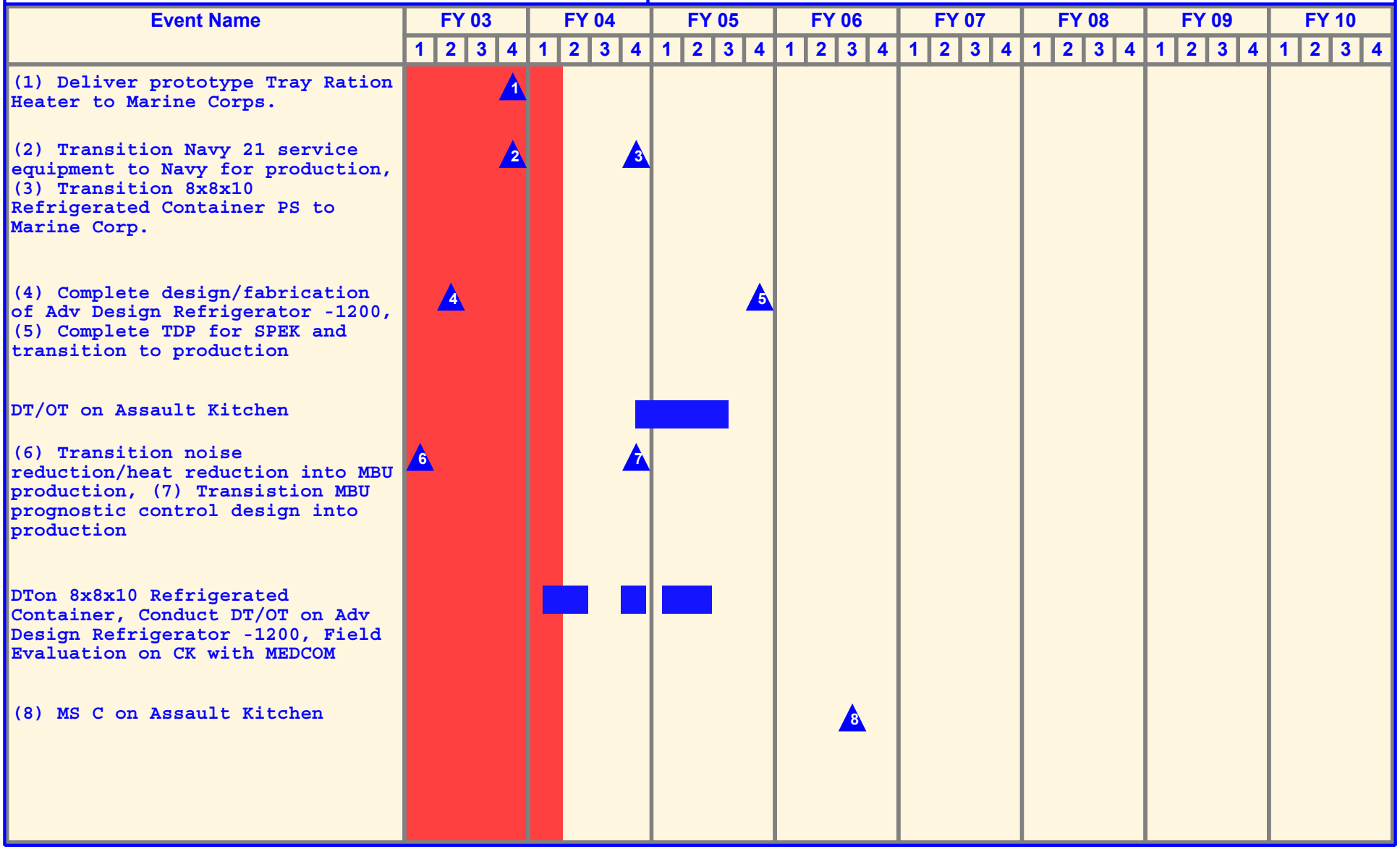
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**548**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **548** |

| Schedule Detail | 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 SPEK and transition to production. | | | 4Q | | | | |
| Complete design and fabrication of Advanced Design Refrigerator - 1200 prototype | 2Q | | | | | | |
| Conduct Developmental and Operational Testing for the Advanced Design Refrigerator -1200 | | 4Q | | | | | |
| Transition noise reduction and heat output changes into MBU production | 1Q | | | | | | |
| Transistion MBU prognostic control design into prodution. | | 4Q | | | | | |
| Conduct Containerized Kitchen (CK) field evaluation with MEDCOM. | | | 1-2Q | | | | |
| Complete CK field evaluation with MEDCOM. | | | 2Q | | | | |
| Initiate Assault Kitchen DT and OT. | | 4Q | | | | | |
| Complete Assault Kitchen DT and OT. | | | 3Q | | | | |
| Conduct Milestone C on Assault Kitchen. | | | | 3Q | | | |
| Initiate 8x8x10 Refrigerated Container Developmental Test. | | 1Q | | | | | |
| Complete 8x8x10 Refrigerated Container Developmental Test. | | 2Q | | | | | |
| Transition 8x8x10 Refrigerated Container performance specification to Marine Corp. | | 4Q | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **667** |

| COST (In Thousands) | FY 2003 Actual | 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 | 53949 | 81029 | 91279 | 104793 | 115729 | 128791 | 86853 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Currently in the system development and demonstration phase, Land Warrior (LW) establishes the Infantryman 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 Infantryman. The LW-Initial Capability (LW-IC), Block I was intended to provide initial capability to the field. The LW-IC (Block I) system was not viable to enter Low Rate Initial Production (LRIP) in 2004, based upon lower than expected system readiness as confirmed during the Reliability Growth testing. As a result, LW-IC was ended early in FY03 and LW Stryker Interoperable (LW-SI), Block II, was begun as part of the Army Systems Acquisition Review Council (ASARC) approved program baselining activity. LW-SI (Block II) includes Stryker integration, tactical internet connectivity/interface with the Army Battle Command System, and weight/power advancements. LW-Advanced Capability (LW-AC), Block III, systems will leverage the technological advancements transitioned from the Science and Technology (S&T) community and Objective Force Warrior (OFW) Advance Technology Demonstration (ATD).

This program supports the Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| For FY03: Fabricated Land Warrior (LW) systems that were used for Development Testing (DT) and Operational Testing (OT) for LW-IC (Block I). Conducted contractor acceptance testing to validate system functionality and integration prior to formal government testing. Provided contractor logistics support of hardware and software on test units during early fightability assessments and safety testing. In FY04/05, obtain miniaturized Global Positioning System (GPS) Selective Availability Anti-Spoofing Module (SAASM) Cards, and other government furnished equipment (GFE) items to support LW-SI (Block II) system. Funds are planned in FY04 and FY05 to support the Army Strategic Software Improvement Program. | 12519 | 334 | 2227 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Transition from LW-IC (Block I) to LW-SI (Block II) design. Begin LW-SI development which addresses LW to Stryker integration to meet the Key Performance Parameter (KPP) for Army Battle Command System (ABCS) interoperability with Light Digital Tactical Operations Center (TOC) and to provide on-board power recharging capability in Stryker vehicles for LW equipped Soldiers. Fabricate and conduct contractor testing on General Dynamics (GD) LW-SI systems that will be used for formal Government DT. Continue LW demonstrations to other countries to demonstrate system capability and functionality. | 27917 | 61901 | 52391 |
| In FY03 conducted DT for LW-IC (Block I). The LW-IC program stopped in FY03 and the FY04 start up of the LW-SI program requires a limited amount of Government test support activity. In FY05, conduct user fightability assessment, and obtain necessary safety releases. Conduct limited operational assessments and conduct government system assessment of operational test results. Develop detailed test plans and OT threat instrumentation to support DT and OT. Develop 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. Develop interactive training scenarios and evaluate integrated training environment. Develop Training Aids, Devices, Simulators and Simulations (TADSS) to meet Army Vice Chief of Staff guidance. | 2641 | 510 | 11800 |
| Program management and systems engineering support for overall program efforts. Continue operation of PM Land Warrior - Fort Monmouth, and maintain appropriate activity at PM Land Warrior - Fort Bragg. Program development and execution of Memoranda of Agreement (MOAs) and support agreements with other PMs related to LW vehicle and communication integration kit activities. Conduct technical and program reviews for DA Level In Process Review (IPR), ASARC Milestone C preparations, develop, maintain, report out on required ACAT 1 program documentation requirements. Support NATO Land Group 3 and other partnered countries to ensure compatibility with potential multinational military operations. | 10872 | 14899 | 20297 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 3385 | 4564 |
| Totals | 53949 | 81029 | 91279 |

| **B. Other Program Funding Summary** | 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 | 37499 | 44476 | 56676 | 62579 | 47880 | 74806 | 75220 | Continuing | Continuing |
| OPA3, M80500, Land Warrior | 0 | 1538 | 8896 | 89700 | 193458 | 157673 | 149960 | Continuing | Continuing |
| RDTE, 0603747, D669 Clothing and Equipment | 4567 | 8766 | 9594 | 8105 | 8134 | 9355 | 9540 | Continuing | Continuing |
| RDTE, 0604713 , DL40 Clothing and Equipment | 4391 | 3068 | 5347 | 7940 | 8927 | 9154 | 9073 | Continuing | Continuing |
| OPA4, MS3610, Land Warrior Initial Spares | 0 | 667 | 711 | 851 | 967 | 490 | 128 | Continuing | Continuing |
| RDTE, 0604817, D902 Combat Identification | 4983 | 8313 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |

**C. Acquisition Strategy:** The Land Warrior (LW) is the first holistic, integrated system of systems focused on the needs of the individual Soldier. The LW builds on the Soldier's inherent abilities and appropriately equips the Soldier to endure environmental threats while integrating him into the digital battlefield. In keeping with a holistic view, the LW system includes Soldier equipment such as uniform, ballistic and Nuclear, Biological and Chemical (NBC) protection, and a personal electronics system, which provides power, computation, network communications, and geo-location. The acquisition concept developed by PM Soldier Warrior (PM-SWAR) is grounded in a strategy of evolutionary acquisition (Block improvements) based on time-phased user requirements outlined in the November 1, 2002, Army approved Operational Requirement Document (ORD). 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 developmental and support costs. 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 government provided system level performance specifications and system level ICD's. The LW total procurement objective is approximately 58,900 units. The LW Program supports the Army's 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 Future Force transition path of the Transformation Campaign Plan (TCP).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Other Transactions Agreement (OTA) | FFP | LW OTA Consortium, Vienna, VA | 80727 | 9476 | 1-2Q | 0 | | 0 | | 0 | 90203 | 90203 |
| b . Global Positioning Systems Cards/Antennas | T&M | ARINC, Annapolis, MD | 780 | 134 | 2Q | 0 | | 0 | | 0 | 914 | 914 |
| c . Develop LW-SI (M&S,Stryker integration, etc.) | CPFF | GDDS, Scottsdale, Arizona | 0 | 27917 | 1-2Q | 61901 | 1-3Q | 52391 | 1Q | Continue | 142209 | Continue |
| d . Multifunction Laser/Thermal Weapon Sights, etc. | MIPR | PM Night Vision, Fort Belvoir, VA | 1064 | 2500 | 1-2Q | 200 | 3Q | 1977 | 1Q | 0 | 5741 | 5782 |
| e . Computer Based Training/Interactive Multimedia Ins | IDIQ/MIPR | OMEGA, Columbus GA; PEO STRI, Orlando, FL | 650 | 209 | 2Q | 0 | | 0 | | 0 | 859 | 859 |
| f . Coalition Combat ID - ACTD MOUNT Exercise | FFP | GDDS, Scottsdale, Arizona | 0 | 200 | 2-3Q | 0 | | 0 | | 0 | 200 | 200 |
| g . Army Strategic Software Improvement Program | MIPR | ASA(ALT), Ft. Belvoir, VA | 0 | 0 | | 134 | 1Q | 250 | 1Q | Continue | 384 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 83221 | 40436 | | 62235 | | 54618 | | Continue | 240510 | Continue |

Remarks: Award dates covering multiple quarters reflect multiple awards.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**

| 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 | 298 | 1-2Q | 1250 | 1-3Q | Continue | 13968 | Continue |
| b . TSM-Soldier program support | MIPR | TSM Soldier, Fort Benning, GA | 1550 | 350 | 1-3Q | 592 | 1-3Q | 752 | 1-3Q | Continue | 3244 | Continue |
| c . Modern Tech Inc. - support contractors | Task Order | Modern Tech Inc., Springfield, VA | 10124 | 2429 | 1Q | 4081 | 1Q | 4501 | 1Q | Continue | 21135 | Continue |
| d . System Engineering support | T&M | Various | 1290 | 540 | 1Q | 300 | 1Q | 236 | 1Q | Continue | 2366 | Continue |
| e . PM Land Warrior in-house support | In-house | PM Land Warrior, Fort Belvoir, VA | 11458 | 736 | 1-4Q | 540 | 1-4Q | 529 | 1-4Q | Continue | 13263 | Continue |
| f . Physical Integration Team - LW integration support | MIPR | SBCCOM - Natick, MA | 482 | 150 | 1Q | 0 | | 0 | | 0 | 632 | 632 |
| g . NVESD Program Matrix Support | MIPR | CECOM NVESD, Fort Belvoir, VA | 899 | 218 | 1-3Q | 282 | 1-3Q | 312 | 1-3Q | Continue | 1711 | Continue |
| h . Other Government Agencies Program Support | MIPR | Various | 285 | 128 | 1-2Q | 102 | 1-4Q | 102 | 1-4Q | Continue | 617 | Continue |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal: | | | 38108 | 4951 | | 6195 | | 7682 | | Continue | 56936 | Continue |

Remarks: Buys government and contract engineering and logistical support for overall program support.

| 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 | 1386 | 1-2Q | 185 | 1-3Q | 2453 | 1-3Q | Continue | 9836 | Continue |
| b . Testing Organizations - Operational testing/evaluation | MIPR | OTC, AEC | 8343 | 834 | 1-3Q | 320 | 1-3Q | 3327 | 1-3Q | Continue | 12824 | Continue |
| c . Test Equip/Support/Soldiers | Various | Various | 4208 | 421 | 1-2Q | 0 | | 0 | | 0 | 4629 | 4629 |
| d . Airworthiness/Airborne Certification | MIPR | Various | 170 | 0 | 1-2Q | 5 | 1-2Q | 120 | 1-2Q | Continue | 295 | Continue |
| e . Test Program Sets/Direct Support Manuals/Built in test | MIPR/T&M | Huntsville, AL; Fort Monmouth, NJ | 50 | 0 | 1-2Q | 0 | 2-3Q | 5900 | 1-2Q | Continue | 5950 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 18583 | 2641 | | 510 | | 11800 | | Continue | 33534 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2874 | 1-4Q | 8328 | 1-4Q | 12335 | 1-4Q | Continue | 35134 | Continue |
| b . Management Support/Cost Analysis Support | Task Order | Wexford Group, Vienna, VA/Camber Corp | 2644 | 200 | | 0 | | 0 | | 0 | 2844 | 2844 |
| c . PEO Support/DA Support | Task Order | Camber Corp/SY-Tech, Springfield, VA | 808 | 700 | 1-4Q | 376 | 1-4Q | 280 | 1-4Q | Continue | 2164 | Continue |
| d . Demo Maintenance Support | GSA | Exponent, Menlo Park, CA | 825 | 850 | 1-4Q | 0 | | 0 | | 0 | 1675 | 1675 |
| e . Power Initiatives | Various | Various | 300 | 1297 | 1-3Q | 0 | | 0 | | 0 | 1597 | 1600 |
| f . Small Business Innovative Research/Small Business Technology Transfer Program | | | 0 | 0 | 1-4Q | 3385 | 1-4Q | 4564 | 1-4Q | Continue | 7949 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 16174 | 5921 | | 12089 | | 17179 | | Continue | 51363 | Continue |

Remarks: Award dates covering multiple quarters reflect multiple awards.

| Project Total Cost: | | | 156086 | 53949 | | 81029 | | 91279 | | Continue | 382343 | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

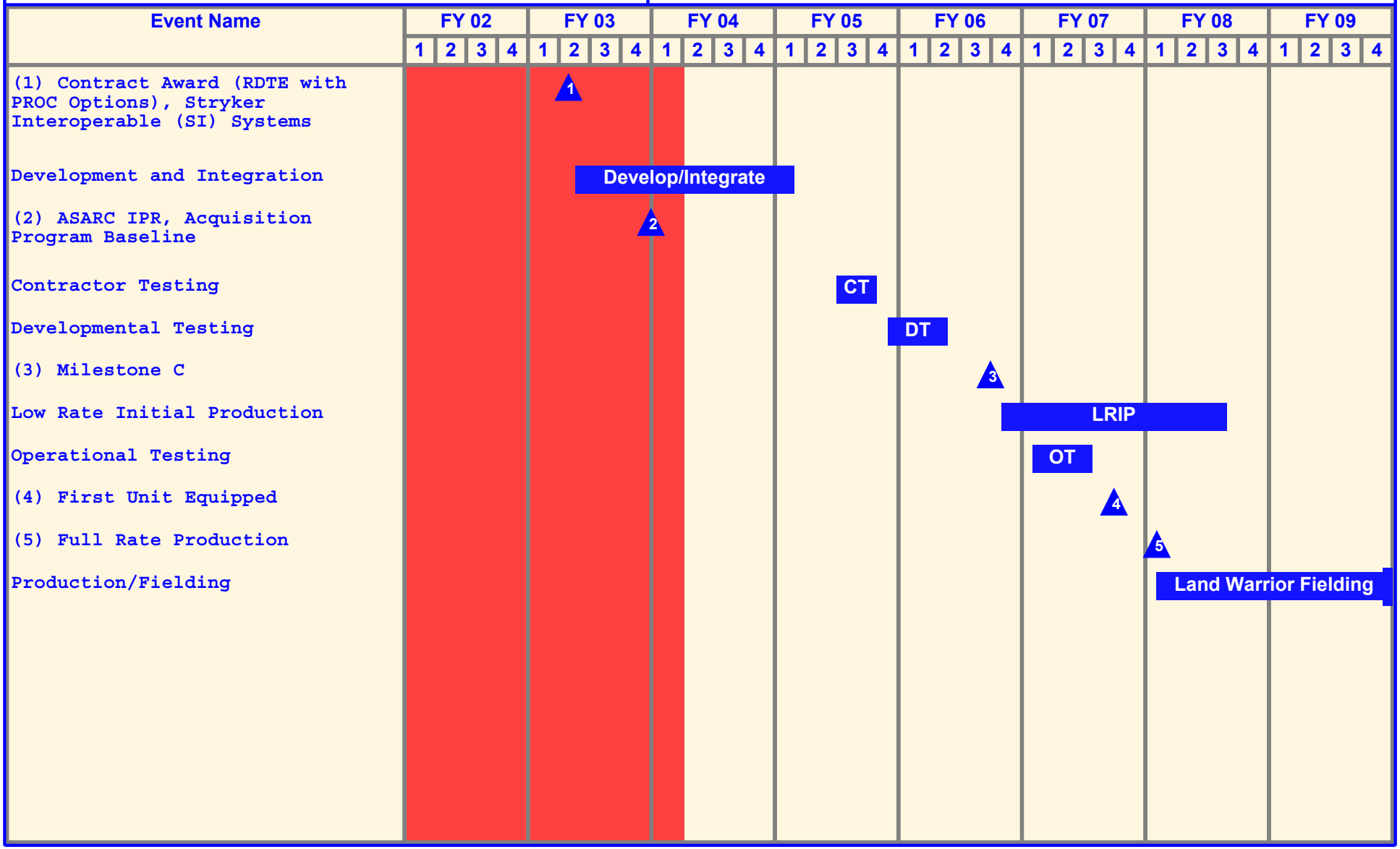
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**667**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **667** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award Developmental Contract/Follow On Options - SI | 2Q | 1Q | 1Q | | | | |
| Conduct LW Preliminary Design Review (PDR) (LW-SI) | 4Q | | | | | | |
| Conduct LW Critical Design Review (CDR) (LW-SI) | | 3Q | | | | | |
| Accept prototypes for government testing | | | 3Q | | | | |
| Conduct developmental test planning/testing and prepare reports | | | 3-4Q | 1-2Q | | | |
| Conduct Initial Operational Test and Evaluation (IOTE) | | | | | 1-3Q | | |
| Milestone C (ASARC) | | | | 3Q | | | |
| Full Rate Production (FRP) | | | | | | 1-2Q | |
| Production Contract Award/Subsequent Options | | | 1Q | 1Q | 1Q | 1Q | 1Q |
| First Unit Equipped (FUE) | | | | | 3Q | | |
| Initial Operational Capability (IOC) - SI | | | | | | 3Q | |
| Fielding | | | | | | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **668** |

| COST (In Thousands) | FY 2003 Actual | 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 | 9935 | 10039 | 15859 | 13975 | 15909 | 16073 | 16163 | Continuing | Continuing |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Completed evaluation/type classified/transition into production for several efforts in include: Instrumented Mine Blast Testing, Protective gloves, SEA Mark 11, Law Enforcement Equipment Bags, Individual Riot control Agent Dispenser, Parachute Drop Bags, Access Egress Survival Knife and Command Digital Assistant. | 6171 | 0 | 0 |
| Continue evaluation/procure prototypes and/or test for several efforts such as Close Combat Mission Capability Kit, XM102 Reloadable Stun Grenade, Semi-automatic sniper system, Electronic Stun Baton, Blast Protective Footware, POL Handler Glove, Compact Metal Detector, Enhanced Fuel Bar, Modular Glove System, Close Quarters Battle Kit and Rapid Wall Breaching Kit. | 2409 | 3995 | 3220 |
| Initiate continue evaluation for such items as: Water Purification Pen, Integrated Laser White Pointer (ILWLP), Small Tactical Optical Ranging Module (STORM) micro-Laser Range Finder (MLRF) sytem. | 0 | 1123 | 2689 |
| Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items started will continue evaluation/procure prototypes. | 0 | 2431 | 6820 |
| Continue in house engineering support services, conduct technical evaluation and program reviews. | 1355 | 2199 | 3130 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 291 | 0 |
| Totals | 9935 | 10039 | 15859 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **668** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, MA6800, Soldier Enhancement | 4921 | 20135 | 7275 | 4810 | 8950 | 7015 | 3321 | Continuing | Continuing |
| OPA2, BA5300, Soldier Enhancement | 3169 | 7965 | 25952 | 13378 | 19765 | 14183 | 4361 | Continuing | Continuing |
| WTCV, GC0076, Small Arms (SEP) | 3526 | 1237 | 3492 | 3921 | 2634 | 5326 | 1237 | Continuing | Continuing |
| WTCV, GZ1290, Squad Automatic Wpn (Mods) | 11658 | 5473 | 3382 | 1300 | 5006 | 11192 | 4074 | Continuing | Continuing |
| WTCV, GZ2800, M16 Rifle Mods | 0 | 2351 | 2345 | 2045 | 0 | 3904 | 0 | Continuing | Continuing |
| WTCV, GB3007, M4 Carbine Mods | 33272 | 22907 | 13777 | 10270 | 10642 | 10103 | 2770 | 0 | 103741 |
| WTCV, G01500, Sniper Rifle | 8955 | 8688 | 8871 | 8867 | 8082 | 191 | 0 | 0 | 45772 |
| WTCV, GC0925, Mods | 7905 | 3334 | 3245 | 739 | 1269 | 741 | 488 | Continuing | Continuing |
| PAA, F47500, 7.62mm AP | 2414 | 400 | 400 | 400 | 400 | 0 | 0 | 0 | 71517 |
| PAA, F47600, 5.56mm AP | 3559 | 1600 | 1600 | 600 | 600 | 0 | 0 | 0 | 24464 |
| PAA, F00900, 40mm Canister | 5548 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5548 |
| OMA, 121017, Central Funding & Fielding | 424095 | 88778 | 141770 | 136115 | 161051 | 159302 | 115700 | 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(R3)

**February 2004**

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 | 861 | 1Q | 485 | 1Q | 550 | 1Q | 0 | 6404 | 0 |
| b . Various | MIPR | PM-SA, NJ | 13838 | 2099 | 1Q | 1638 | 1Q | 3226 | 1Q | 0 | 20801 | 0 |
| c . Various | MIPR | ERDEC, Edgewood, MD | 598 | 66 | 1Q | 400 | 1Q | 380 | 1Q | 0 | 1444 | 0 |
| d . Contracts | Various | SBCCOM, MA | 1822 | 0 | 2Q | 250 | 3Q | 2949 | 2Q | 0 | 5021 | 0 |
| e . Various | MIPR | CECOM, NJ | 223 | 6344 | 1Q | 0 | | 0 | | 0 | 6567 | 0 |
| f . Contracts | MIPR | DSCP, Philadelphia, PA | 0 | 52 | 1Q | 0 | | 0 | | 0 | 52 | 0 |
| g . ILWLP Development Support | MIPR | NVESD, Fort Belvoir | 0 | 0 | | 300 | 2-3Q | 240 | 1-2Q | 0 | 540 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 20989 | 9422 | | 3073 | | 7345 | | 0 | 40829 | 0 |

Remarks: Candidates for the Soldier Enhancement Program are received, reviewed, and approved annually. Contractual efforts primarily are focused on procurring prototypes for testing.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| 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 | 0 | 1Q | 230 | 1Q | 235 | 1Q | 0 | 1096 | 0 |
| b . Various | Contracts | Various | 9073 | 21 | 3Q | 890 | 2Q | 2629 | 3Q | 0 | 12613 | 0 |
| c . DCD Support - Military Police | MIPR | GSA/FEDLEARN | 324 | 160 | 1Q | 145 | 1Q | 150 | 1Q | 0 | 779 | 0 |
| d . Logistics Support | MIPR | Army Logistics Support Activity | 123 | 91 | 1Q | 60 | 1Q | 65 | 1Q | 0 | 339 | 0 |
| e . Various | MIPR | NVEOD, VA | 329 | 0 | | 522 | 1Q | 0 | | 0 | 851 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10480 | 272 | | 1847 | | 3079 | | 0 | 15678 | 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.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**

| 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 | 0 | | 50 | 3Q | 50 | 3Q | 0 | 175 | 0 |
| b . Various | MIPR | OPTEC/ATEC | 2951 | 150 | 2Q | 1580 | 2Q | 1695 | 1Q | 0 | 6376 | 0 |
| c . ILWLP Test Support | MIPR | Various | 0 | 0 | | 700 | 2-3Q | 560 | 1-2Q | 0 | 1260 | 0 |
| d . STORM Test Support | MIPR | Various | 0 | 0 | | 595 | 2-3Q | 0 | | 0 | 595 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3026 | 150 | | 2925 | | 2305 | | 0 | 8406 | 0 |

Remarks: Testing costs vary annually by item(s) and are primarily funded by customers using the program dollars we send to them.

| 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 | MIPR | PM-Soldier Equipment, Fort Belvoir, VA | 5741 | 67 | 1Q | 2194 | 1Q | 3130 | 1Q | 0 | 11132 | 0 |
| b . In-House | MIPR | Natick, MA | 0 | 24 | 1Q | 0 | | 0 | | 0 | 24 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5741 | 91 | | 2194 | | 3130 | | 0 | 11156 | 0 |

Remarks: Costs vary annually depending on number and type of items being evaluated.

| Project Total Cost: | | | 40236 | 9935 | | 10039 | | 15859 | | 0 | 76069 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

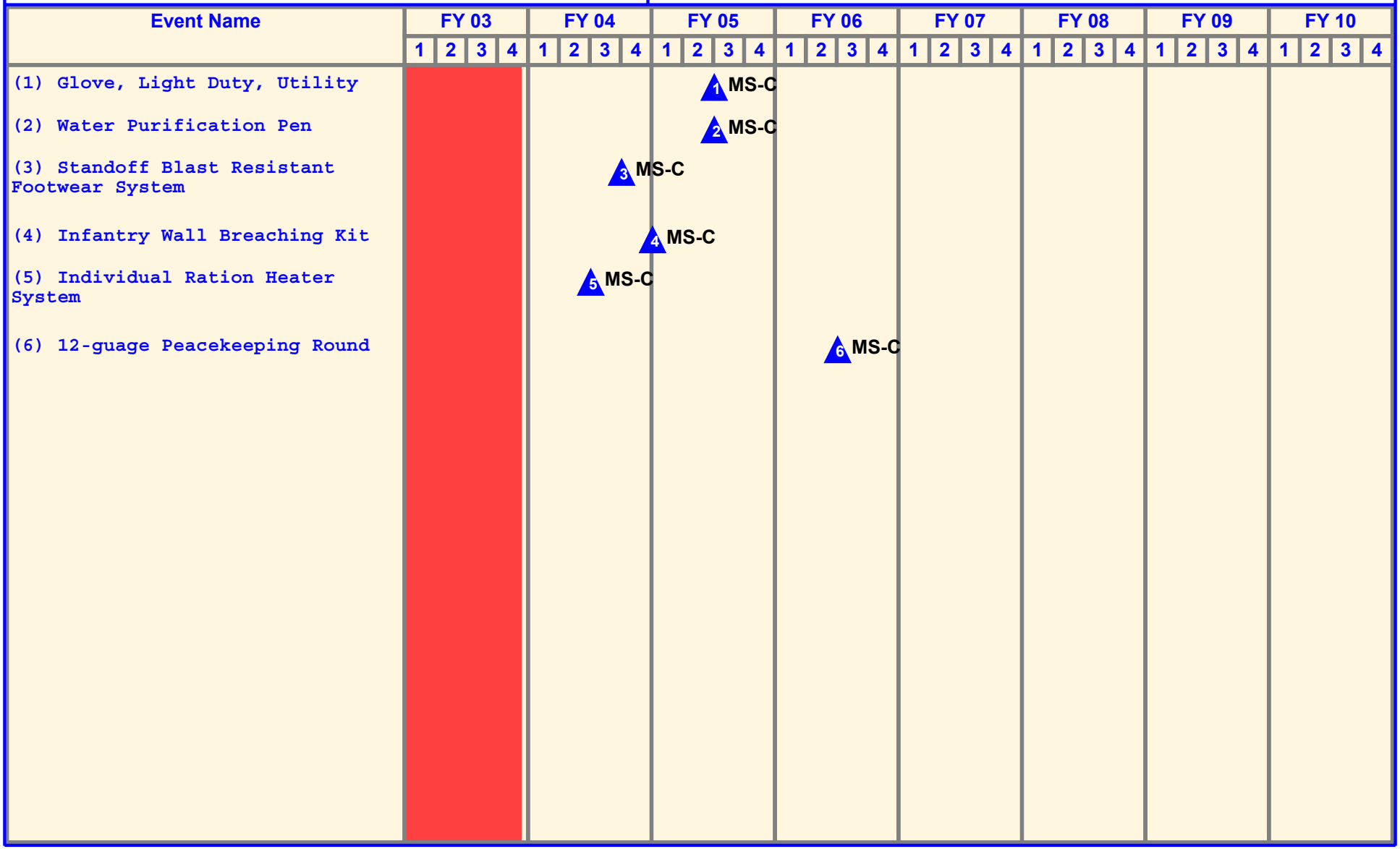
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**668**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **668** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Tactical Assault Ladder System: achieve MS C and transition to production. | 4Q | | | | | | |
| Collapsible Grappling Hook: achieved MS C and transitioned to production. | | | | | | | |
| Survival Egress Air (SEA) MK 2.0: achieved MS C and transitioned to production. | 2Q | | | | | | |
| Individual Riot Control Agent Disperser: achieve MS C and transition to production. | 2Q | | | | | | |
| Combat Uniform for Soldiers: achieve MS C and transition to production. | 3-4Q | | | | | | |
| 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 | | | | | |
| Enhanced Fuel Bar achieve MS C and transition to production. | | 1Q | | | | | |
| Close Quarters achieve MS C and transition to production. | | 1Q | | | | | |
| 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. | | 4Q | | | | | |
| Infantry Wall Breaching Kit: achieve MS C and transition to production. | | | 1-4Q | | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **668** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Integrated Laser White Light Pointer (ILWLP) Development and Testing | | 2-4Q | 1-4Q | | | | |
| Electric Stun Devices - MSC | | 4Q | | | | | |
| Family of Metal Dectors | | 4Q | | | | | |
| .30 Cal Semi Auto Sniper System Developmental Testing | | | 2-3Q | | | | |
| Quarter Battle Kit Developmental Testing | | | 3-4Q | | | | |
| Small Tactical Optical Ranging Module (Storm) - micro-Laser Range Finder (MLRF) Development/Testing | | 2-4Q | | | | | |

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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **C40** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 11003 | 2860 | 574 | 297 | 298 | 298 | 297 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project historically supports the system development and demonstration of field shelters, showers, latrines, heaters, environmental control units, mortuary affairs, organizational equipment, cargo parachutes, airdrop containers, and other combat service support equipment to improve unit sustainability and combat effectiveness. This project supports development and type classification of personnel parachutes, and other aerial delivery equipment to improve safety and efficiency of airborne operations. This project supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Completed Developmental Testing for Advanced Tactical Parachute System (ATPS). | 362 | 0 | 0 |
| Procured Operational Test items and conduct Operational Testing for ATPS. | 1228 | 1034 | 0 |
| Conduct Milestone C and purchase data rights for ATPS. | 747 | 1743 | 21 |
| Conduct product improvements to ATPS. | 0 | 0 | 553 |
| Procured test items and conducted Developmental Testing for the 500 ft. Low Velocity Airdrop System (LVADS). | 2366 | 0 | 0 |
| Conducted Developmental Testing on Space Heater Large (SHL). | 1500 | 0 | 0 |
| Conducted Developmental Testing on the Enhanced Container Delivery System (ECDS). | 1482 | 0 | 0 |
| Developed improvements to Tent Extendable Modular Personnel (TEMPER) based on technologies inserted into Lightweight Maintenance Enclosure (LME). | 500 | 0 | 0 |
| Completed Developmental and Operational Testing on Containerized Batch Laundry (CBL) and conducted Milestone C. | 1500 | 0 | 0 |
| Completed design and evaluation of Modular General Purpose Tent (MGPTs) floors, liners and plenums. Developed Technical Data Package (TDP). | 430 | 0 | 0 |
| Conducted Developmental Testing on Authorized Stockage List Mobility System (ASLMS) and conducted limited user test. | 888 | 0 | 0 |
| Small Business Innovative Research/Small Business technology Transfer Programs. | 0 | 83 | 0 |
| Totals | 11003 | 2860 | 574 |

| B. Other Program Funding Summary | 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 | 11588 | 1338 | 199 | 198 | 198 | 198 | 197 | Continuing | Continuing |
| OPA, MA7801, Advance Tactical Parachute Delivery System (ATPS) | 0 | 4856 | 14288 | 39644 | 41054 | 41898 | 43901 | Continuing | Continuing |

**C. Acquisition Strategy:** Provides for system integration and initial operational test followed by a transition into production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | Continue | 9450 | 9665 |
| b . Contracts | Various | Various | 16700 | 3900 | 2Q | 0 | | 0 | | Continue | 20600 | 30549 |
| | | | | | | | | | | | | |
| Subtotal: | | | 24150 | 5900 | | 0 | | 0 | | Continue | 30050 | 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(R3)

**February 2004**

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 | 4498 | 1-4Q | 2527 | 3Q | 0 | | Continue | 21408 | 25208 |
| | | | | | | | | | | | | |
| Subtotal: | | | 14383 | 4498 | | 2527 | | 0 | | Continue | 21408 | 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 | | Continue | 2805 | 4479 |
| b . Program Managment | In-House | PM Soldier, Fort Belvoir, VA | 0 | 0 | | 333 | 1Q | 574 | 1Q | Continue | 907 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2200 | 605 | | 333 | | 574 | | Continue | 3712 | 4479 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 40733 | 11003 | | 2860 | | 574 | | Continue | 55170 | 69901 |

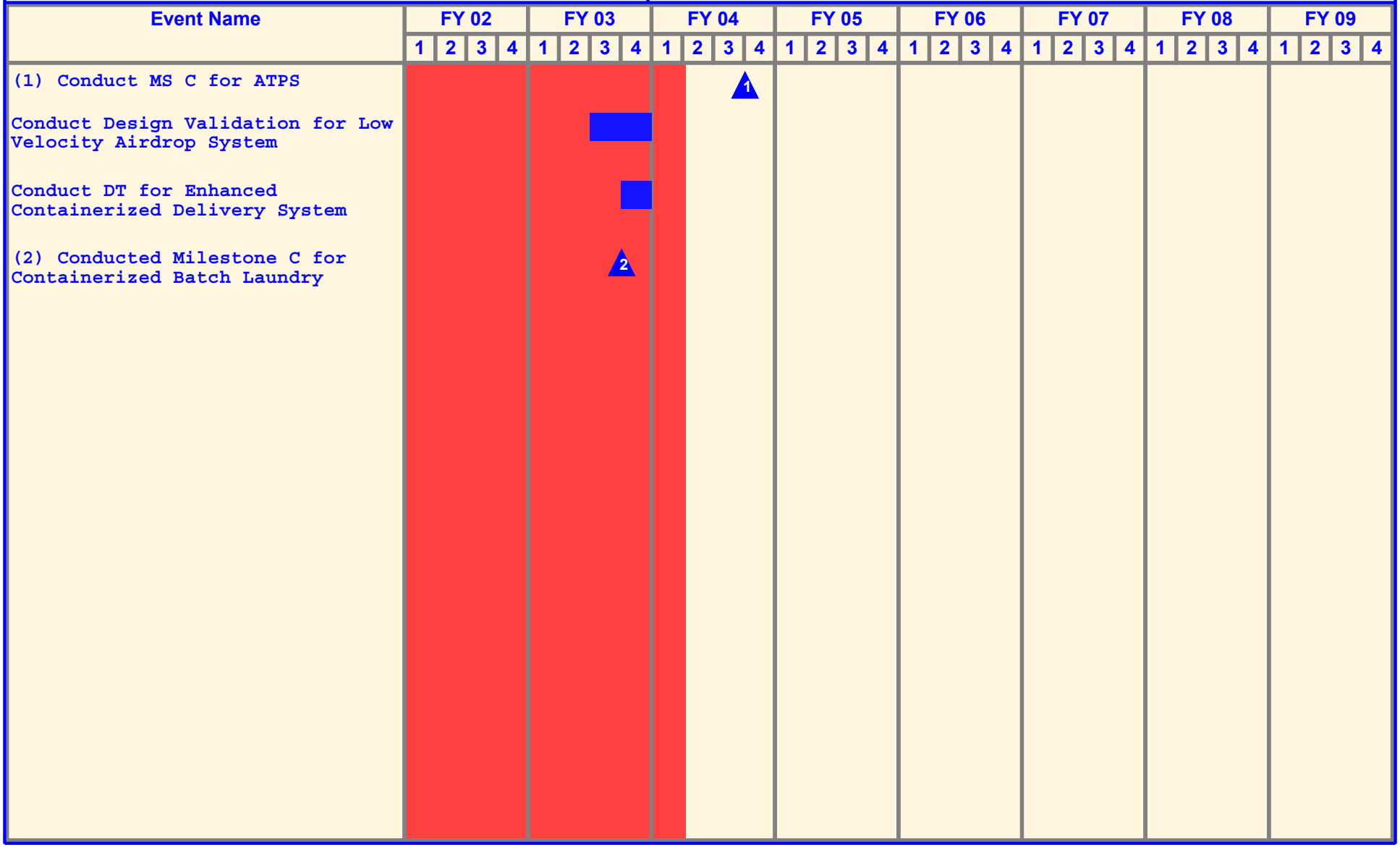
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**C40**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **C40** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct MS C for Advanced Tactical Parachute System (ATPS). | | 4Q | | | | | |
| Conduct Design Validation (DV) for Low Velocity Airdrop System (LVADS). | 3Q | 1Q | | | | | |
| Conduct Developmental Test (DT) for Enhanced Containerized delivery System (ECDS). | 4Q | 1Q | | | | | |
| Conducted Milestone C for Containerized Batch Laundry (CBL). | 4Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **L40** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 4391 | 3068 | 5347 | 7940 | 8927 | 9154 | 9073 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The funding in this project supports pre-production 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 Current to Future transition path of the Army's Transformation Campaign Plan.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Advanced Combat Helmet(ACH)-Procure test items, initiate integration efforts and award developmental contract. | 350 | 418 | 0 |
| Advanced Combat Uniform (ACU)-Complete developmental contract and initiate operational testing. | 0 | 242 | 2967 |
| Military Eye Protection System (MEPS)-Provide engineering support services and conduct technical evaluation to meet Army ballistic requirements. Incorporate sucessful combat eye protection (CEP) designs into the Government Direct Vendor Program to support future procurements. | 511 | 620 | 0 |
| Extended Cold Weather Clothing System (ECWCS)-Evaluated alternative fabric to migrate fabric alternatives with respect to wet weather gear. | 1143 | 0 | 0 |
| Service Uniform Modernization-Provide engineering support, design shop services, fabric supplies, assessories supplies, insigia and patches. Update fabrics and style changes for dress clothing as approved by the Army Uniform Board. | 448 | 255 | 350 |
| Modular Lightweight Load-Carrying Equipment (MOLLE) P3I-Conduct testing for improved frame, improved suspension, improved hydration, improved assault pack, MBITR pouches, flashbang pouch and continue technical data evaluations on-going. | 1053 | 936 | 0 |
| Improve Chemical Protective Gear-Provided engineering support for Legacy Chemical protective clothing. | 168 | 0 | 0 |
| Advanced Bomb Suit (ABS)-Provide engineering support services and capability upgrades to currently fielded ABS. | 243 | 246 | 0 |
| Improve Small Arms Protective Insert (SAPI)-Investigated lighter, more producible ceramic materials for increased ballistic protection. | 254 | 0 | 0 |
| Undershirt Moisture Managing T-Shirt-Provide engineering support, conduct developmental testing, award contracts for prototype t-shirts, and testing of any additional prototypes. | 0 | 261 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Concealable Body Armor (CBA)-Provided engineering support and first article testing. | 221 | 0 | 0 |
| Clothing Bag Modernization- Specification upgrades to legacy field and Garrison Uniform components. | 0 | 0 | 905 |
| Universal Camo Pattern-Investigate alternative patterns and colors matched with IR reflectance for field gear. | 0 | 0 | 570 |
| Permetherin Treatment of Clothing-Provide engineering support services and capability upgrades to legacy coveralls. | 0 | 0 | 115 |
| Multi-Fuel Stove- Assess and modify commercial multi-fuel stoves that provide greater safety, efficiency and unit self sufficiency. | 0 | 0 | 440 |
| Small Business Innovative Research/Small business Technology Transfer Programs. | 0 | 90 | 0 |
| Totals | 4391 | 3068 | 5347 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0603747.669, Clothing & Equipment | 4567 | 8766 | 9594 | 8105 | 8134 | 9355 | 9540 | Continuing | Continuing |
| OMA, 121017, Central Funding and Fielding | 419923 | 88778 | 141770 | 136115 | 161051 | 159302 | 115700 | 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(R3)

**February 2004**

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 | 5095 | 3111 | 1Q | 2507 | 1Q | 3917 | 1Q | Continue | 14630 | Continue |
| b . Various | Contracts | Various | 2851 | 400 | 3Q | 105 | 2Q | 750 | 2Q | Continue | 4106 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 7946 | 3511 | | 2612 | | 4667 | | Continue | 18736 | 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 . Misc Support | MIPR | Various | 246 | 100 | 1Q | 100 | 1Q | 100 | 1Q | 0 | 546 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 246 | 100 | | 100 | | 100 | | 0 | 546 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 130 | 3Q | 0 | 1841 | 0 |
| b . Various | MIPRS | SBCCOM (OFIG), Natick, MA | 205 | 500 | 1Q | 50 | 2Q | 300 | 2Q | 0 | 1055 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1666 | 600 | | 200 | | 430 | | 0 | 2896 | 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 | | PM-CIE Soldier Equipment, Ft Belvior VA | 746 | 180 | 1-4Q | 156 | 1-4Q | 150 | 1-4Q | 0 | 1232 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 746 | 180 | | 156 | | 150 | | 0 | 1232 | 0 |
| Project Total Cost: | | | 10604 | 4391 | | 3068 | | 5347 | | Continue | 23410 | Continue |

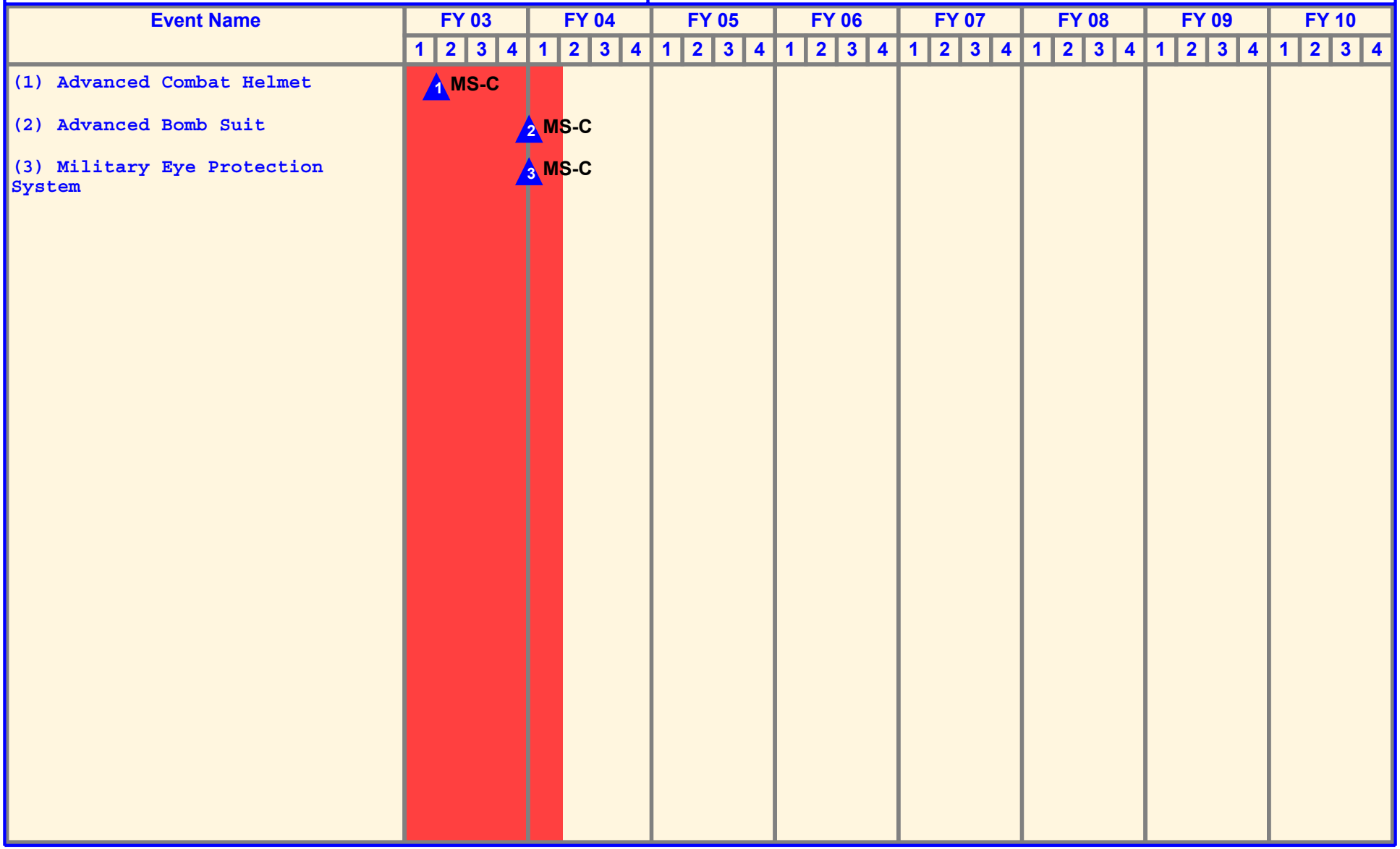
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604713A - Combat Feeding, Clothing, and Equipment**

PROJECT
**L40**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604713A - Combat Feeding, Clothing, and Equipment** | **L40** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Advanced Combat Helmet MS C | 2Q | | | | | | |
| Advanced Bomb Suit MS C | | 1Q | | | | | |
| Military Eye Protection System MS C | | 1Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

| COST (In Thousands) | FY 2003 Actual | 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 | 55865 | 70870 | 51694 | 44311 | 59063 | 38846 | 39797 | Continuing | Continuing |
| 241 NSTD COMBINED ARMS | 54644 | 69295 | 49228 | 42874 | 57576 | 37320 | 38235 | Continuing | Continuing |
| 573 STRICOM/NAWCTSD SUPPORT | 1221 | 1575 | 2466 | 1437 | 1487 | 1526 | 1562 | 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 funds key organizational support to Army/DoD Transformation via innovative simulation and training device efforts. PEO STRI's unique geographic colocation with other services facilitates joint training solutions in a common environment. FY05 funding supports a more active presence in this effort.

In FY05, the Non-System Training Devices, 241 project 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 FY05, the PEO STRI/NAWCTSD SUPT, 573 project line 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, PM Future Force (S) and PM Constructive Simulation).

These systems support the Current to Future transition paths of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 56002 | 71616 | 62634 |
| Current Budget (FY 2005 PB) | 55865 | 70870 | 51694 |
| Total Adjustments | -137 | -746 | -10940 |
| Congressional program reductions | | -674 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -137 | -1970 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -10940 |

FY05 funding was realigned to higher Army priorities. Funding was reduced for the Advanced Morse Mission Trainer (AMMT), SATCOM Principles Transformation Trainer (SPTT), Tactical Simulation System (TACSIM) and Combat Service Support/Tactical Simulation System (CSS/TSS)and National Training Center Objective Instrumentation System (NTC OIS). Funding was increased for Corps Battle Simulation (CBS), Common Training Instrumentation Architecture (CTIA), One Tactical Engagement Simulation System (OneTESS)and the Aerial Weapon Scoring System (AWSS).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604715A - Non-System Training Devices - Eng Dev** | **241** |

| COST (In Thousands) | FY 2003 Actual | 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 | 54644 | 69295 | 49228 | 42874 | 57576 | 37320 | 38235 | Continuing | Continuing |

**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 current command and staff training simulation at the corps/division level. CBS is part of the Army Constructive Training Federation (ACTF). Tactical Simulation (TACSIM) is the tactical intelligence module and Combat Service Support/Training 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 systems supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS) that support up to brigade-level exercises, including all Battlefield Operating Systems, at Homestation, Maneuver Combat Training Centers, and deployed sites. 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 Measurement 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 Controller Communications System (OCCS) provides a communication system that operates on non-tactical frequencies for the Hohenfels Training Area (HTA) at the CMTC. The Aerial Weapon Scoring System (AWSS) is an air-to-ground scoring system designed specifically to support U.S. Army attack helicopter training. AWSS provides near real time scoring results of live fire exercises conducted from attack helicopters firing caliber .50, 7.62, 20 & 30 millimeter projectiles and 2.75 inch rockets. AWSS also scores simulated Hellfire missile engagements for helicopters using the Hellfire Training Missile. In FY05, a short range (800-2500m) rocket scoring capability will be added to existing AWSS. 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 Basic Electronics Maintenance Trainer (BEMT) program supports the basic electronics training of missile electronics repair, test, measurements, and diagnostics for Redstone Arsenal and Fort Gordon. The FY05 RDTE program will further implementation of Live Training Transformation through development of the Common Training Instrumentation Architecture (CTIA); enabling Joint training with the Joint Forces Command through modernization programs including the Objective Instrumentation Systems (OISs) for the Maneuver CTCs, Homestations, Military Operations in Urban Terrain (MOUT), Digital Multi-Purpose Range Complexes (DMPRCs), and Homestation Instrumentation Training System (HITS). These systems provide integrated Live, Virtual, and Constructive training environments and tools in support of the Contemporary Operational Environment (COE), and Joint, Inter-Service, Inter-Agency training requirements. In FY05, 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 FY05 program will provide funding for emerging concepts and studies for training material needs and Army initiatives.

These systems support the Current, Stryker and Future Force transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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 Measurement System and complete engineering development of Army Tactical Command and Control Systems (ATCCS) modules required for Army Battle Command Systems Integration (ABCSI) integration at NTC. Continue development of CMTC OCCS, RDMS and SINCGARS infrastructure. | 42307 | 50486 | 21843 |
| Continued to develop limited CBS enhancements and provided support to ACTF functionality and integration. | 3714 | 6257 | 6495 |
| Funding for emerging engineering manufacturing and development programs and studies for training material needs and Army initiatives. | 580 | 0 | 0 |
| Continue NGATS program development and planning for weapon system targetry requirements. Block I will correct shortcomings in non-NGATS target systems' reliability, availability, mainatainability, supportability, interoperability, and deployability. Block II and future Blocks will address emerging weapon systems targetry requirements and technology insertion. | 1012 | 1771 | 2127 |
| Develop limited enhancements to Combat Service Support/Training Simulation System (CSS/TSS). | 0 | 743 | 0 |
| Continue development of One Tactical Engagement Simulation System One TESS. Refine systems architecture, develop FCS/Joint, Live/Virtual and Constructive solutions and integrate operational testing. | 7031 | 3633 | 17768 |
| Develop limited Tactical Simulation (TACSIM) enhancements and to provide TACSIM security accreditation. | 0 | 1439 | 0 |
| Live Virtual Constructive Integration Architecture (LVC-IA) Concept Development to provide Joint Seamless L-V-C Army Interoperability. | 0 | 2567 | 0 |
| Evaluate Basic Electronics Maintenance Trainer (BEMT) computerized instructional devices with the capability for computer based instruction and hands-on practical exercise training.This system supports the Future Force transition plan of the TCP. | 0 | 441 | 0 |
| Development of short range scoring systems which can score 2.75 inch training rockets from 800-2500 meters from the existing Aerial Weapon Scoring System (AWSS). | 0 | 0 | 995 |
| Small Business Innovation Research/Small Business Technology Transfer Programs | 0 | 1958 | 0 |
| Totals | 54644 | 69295 | 49228 |

| B. Other Program Funding Summary | 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 | 156811 | 311963 | 241946 | 197566 | 226341 | 171085 | 209303 | Continuing | Continuing |
| OPA3, Appropriation MA6601 CTC Support | 58218 | 42807 | 86421 | 106422 | 80905 | 94086 | 38262 | Continuing | Continuing |

**C. Acquisition Strategy:** Competitive development efforts based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 30022 | 3166 | 1-4Q | 4832 | 1-4Q | 5200 | 1-4Q | Continue | 43220 | Continue |
| b . TACSIM Enhancement Development | C/FFP | Northrop Grumman, Orlando, FL | 0 | 0 | | 1033 | 1-4Q | 0 | | 0 | 1033 | 1033 |
| c . CSS/TSS Upgrade Development | Various | Multiple | 0 | 0 | | 515 | 1-2Q | 0 | | 0 | 515 | 515 |
| d . NGATS | T & M | AMCOM, Redstone Arsenal, AL | 4141 | 677 | 2Q | 914 | 1Q | 1280 | 1Q | Continue | 7012 | Continue |
| e . NTC-OIS | CPAF | Lockheed Martin Corp, Orlando, FL | 6493 | 12930 | 2Q | 44075 | 2Q | 15210 | 2Q | Continue | 78708 | Continue |
| f . CTIA | C/FFP | Lockheed Martin Inc., Orlando, FL | 17330 | 9884 | 1-2Q | 4238 | 1-2Q | 4263 | 1-2Q | Continue | 35715 | Continue |
| g . One TESS | TBD | TBD | 0 | 6348 | 2Q | 3256 | 2Q | 16168 | 1-2Q | Continue | 25772 | Continue |
| h . CMTC OCCS, RDMS & Sincgars Infrastrucure | FFP | TBD | 65 | 3119 | 2Q | 1436 | 1Q | 0 | | 0 | 4620 | 7788 |
| i . NTC RDMS | FFP | SAIC, San Diego, CA | 3903 | 0 | | 0 | | 0 | | 0 | 3903 | 3812 |
| j . VERTS | FFP | SAIC, San Diego, CA | 2541 | 0 | | 0 | | 0 | | 0 | 2541 | 2541 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . LVCIA | TBD | TBD | 0 | 0 | | 2067 | 2-4Q | 0 | | 0 | 2067 | 0 |
| l . BEMT | SS/FFP | Nida Corp., Melbourne, FL | 0 | 0 | | 208 | 2Q | 0 | | 0 | 208 | 0 |
| m . CTIA, NTC Fiber Optic | FFP | SAIC, San Diego, CA | 0 | 13414 | 3-4Q | 0 | | 0 | | 0 | 13414 | 0 |
| n . AWSS | FFP | MDS, Fullerton,CA | 0 | 0 | | 0 | | 995 | 1Q | 0 | 995 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 64495 | 49538 | | 62574 | | 43116 | | Continue | 219723 | 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 . CBS Engineering & Technical Support | Various | Multiple | 517 | 350 | 1-4Q | 1200 | 1-4Q | 1040 | 1-4Q | Continue | 3107 | Continue |
| b . TACSIM Engineering, Technical and Administrative Support | Various | Multiple | 0 | 0 | | 169 | 1-4Q | 0 | | 0 | 169 | 185 |
| c . CSS/TSS Engineering & Technical Support | Various | Multiple | 0 | 0 | | 120 | 1-4Q | 0 | | 0 | 120 | 120 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d . NTC-OIS | Various | Multiple | 6843 | 1510 | 1-4Q | 1670 | 1-4Q | 1670 | 1-4Q | Continue | Continue | 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 | 335 | 1Q | 857 | 1Q | 847 | 1Q | Continue | Continue | Continue |
| g . CTIA | MIPR | Various | 3025 | 1150 | 1-4Q | 700 | 1-4Q | 700 | 1-4Q | Continue | Continue | Continue |
| h . Concept Exploration | Multiple | Various | 908 | 580 | 1-3Q | 0 | | 0 | | 0 | 1488 | 1488 |
| i . OneTESS | Multiple | Various | 0 | 683 | 1-4Q | 377 | 1-4Q | 1600 | 1-4Q | Continue | 2660 | Continue |
| j . CMTC OCCS, RDMS and Sincgars Infrastructure | Multiple | Various | 0 | 300 | 1-4Q | 325 | 1-4Q | 0 | | 0 | 625 | 625 |
| k . LVC-IA | Multiple | Various | 0 | 0 | | 500 | 2-3Q | 0 | | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16637 | 4908 | | 5918 | | 5857 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| 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 | 59 | 2-4Q | 87 | 1-4Q | 100 | 1-4Q | Continue | Continue | Continue |
| b . TACSIM Accreditation Testing | MIPR | NAVAIR Orlando, FL 32826 | 0 | 0 | | 81 | 1-3Q | 0 | | 0 | 81 | 81 |
| | | | | | | | | | | | | |
| Subtotal: | | | 59 | 59 | | 168 | | 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 . CBS Program Management | Various | PEO STRI, Orlando, FL 32826 | 412 | 139 | 1-4Q | 138 | 1-4Q | 155 | 1-4Q | Continue | Continue | Continue |
| b . TACSIM Program Management | Various | Multiple | 0 | 0 | | 156 | 1-4Q | 0 | | 0 | 156 | 196 |
| c . CSS/TSS Program Management | Various | Multiple | 0 | 0 | | 108 | 1-4Q | 0 | | 0 | 108 | 137 |
| d . BEMT program Management | MIPR | PEO STRI/NAVAIR, Orlando, FL | 0 | 0 | | 233 | 1-4Q | 0 | | 0 | 233 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**

| 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: | | | 412 | 139 | | 635 | | 155 | | Continue | Continue | Continue |
| Project Total Cost: | | | 81603 | 54644 | | 69295 | | 49228 | | Continue | Continue | Continue |

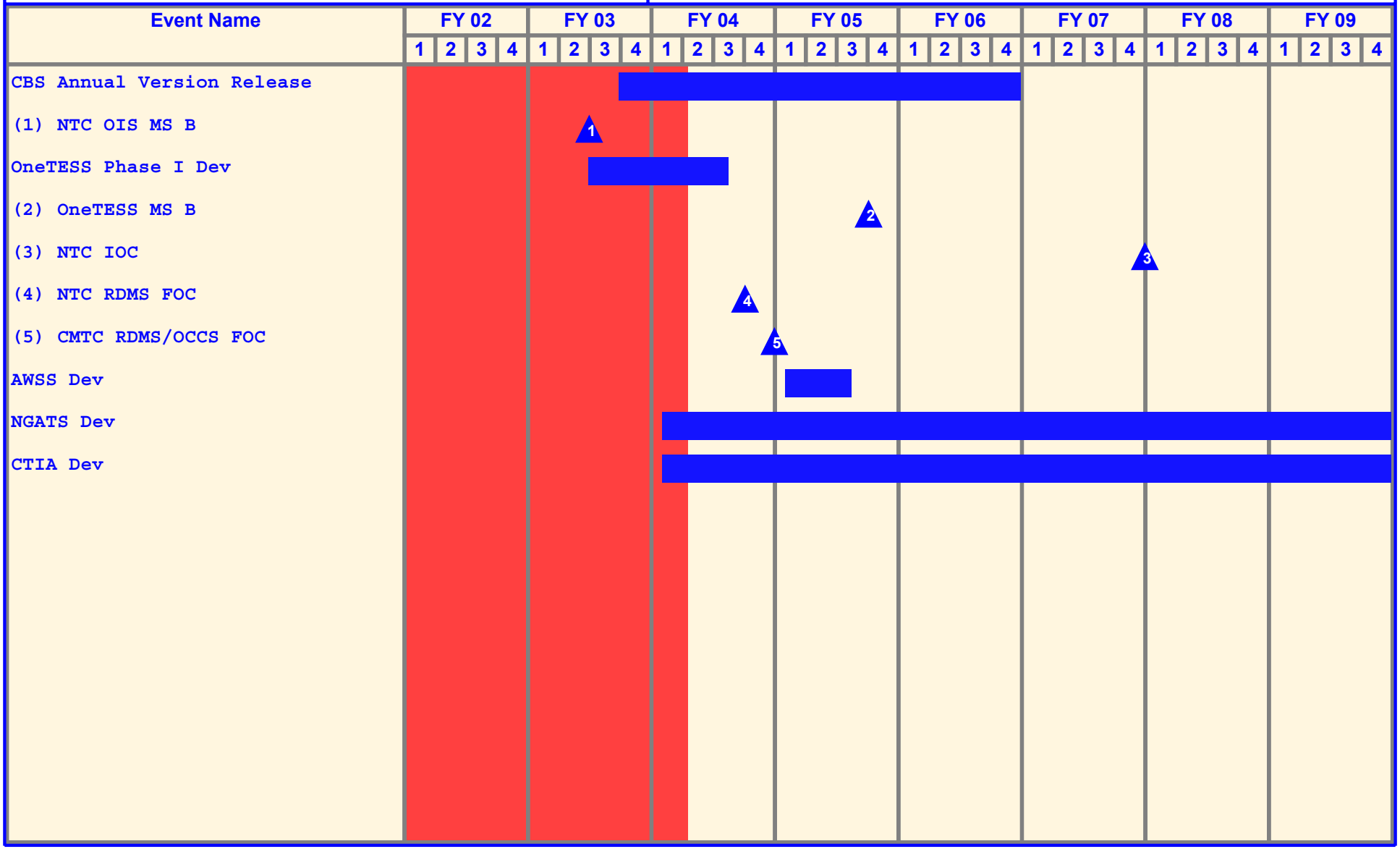
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604715A - Non-System Training Devices - Eng Dev**

PROJECT
**241**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604715A - Non-System Training Devices - Eng Dev** | **241** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CBS Contract Award | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| NTC OIS MS B | 2Q | | | | | | |
| NTC OIS Block 1 Review | | | 1Q | | | | |
| NGATS Contract Award | 2Q | 1Q | 1Q | 1Q | 1Q | 1Q | 1Q |
| CTIA MS B | | | | | | | |
| CTIA Development Contract Award | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q |
| CMTC OCCS, RDMS & SINCGARS Cont Awd | 2Q | 1Q | | | | | |
| One TESS Contract Award | 2Q | 2Q | 1Q | 1Q | 1Q | 1Q | 1Q |
| One TESS MS B | | | 4Q | | | | |
| One TESS MS C | | | | | 1Q | | |
| BEMT Equipment Delivery | | 2Q | | | | | |
| TACSIM Enhancement Development Contract Award | | 1-4Q | | | | | |
| CSS/TSS Upgrade Development Contract Award | | 1-4Q | | | | | |
| HITS Contract Award | | 2Q | | | | | |
| AWSS Contract Award | | | 1Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604715A - Non-System Training Devices - Eng Dev** | **573** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 1221 | 1575 | 2466 | 1437 | 1487 | 1526 | 1562 | 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, PM Constructive Simulation and PM (Future Force) Simulation. FY05 project funds labor in support of PEO operations.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| PEO STRI labor in support of project managers PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force)Simulation. | 1221 | 1566 | 2466 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 9 | 0 |
| Totals | 1221 | 1575 | 2466 |

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

**C. Acquisition Strategy:** Not Applicable.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604716A - TERRAIN INFORMATION - ENG DEV** | **579** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 8092 | 6905 | 3199 | 4348 | 4000 | 3740 | 3745 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This Project funds development of the Digital Topographic Support System (DTSS)-L (HMMWV), DTSS-D (COTS, Transportable), DTSS-B (COTS, Garrison) and HVMP. The traditional 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. Current force CTIS systems provide the commander the ability to rapidly obtain terrain information and topographic products. The DTSS provides digital terrain analysis and map 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, updating, management, and dissemination), 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 HMMWV shelterized (DTSS-L) and transit case (DTSS-D) configurations. The DTSS-L is highly mobile and capable of supporting a full range of military operations, as well as peacetime stability and support operations. The DTSS-L has 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 contingency, mission rehearsal and training operations. The DTSS-B is designed to augment NIMA capabilities at the EAC level by providing quick response data generation, special purpose mapping, terrain analysis, and data baseing. 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 provides a tactical capability to rapidly reproduce large volumes of topographic materiel. HVMPs are capable of reproducing information from a variety of digital and hardcopy sources via direct digital interfaces. CTIS systems are deployed from Brigade through Echelon above Corps (EAC). Additionally, an institutional training classroom environment has been developed and integrated into the curriculum at 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 Battle Command Systems 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 (BTRA), migration to Distributed Common Ground Station - Army (DCGS-A) architecture, improved graphics reproduction) are being incorporated into all of the DTSS hardware and software architectures. Additionally, the Current Force 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 Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604716A - TERRAIN INFORMATION - ENG DEV** | **579** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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 | 7402 | 0 | 0 |
| ABCS Systems Engineering & Integration (SE&I) | 140 | 0 | 0 |
| Complete SDD for HVMP | 250 | 0 | 0 |
| Initiate upgrade analysis for DTSS-L | 300 | 0 | 0 |
| Continue P3I development for DTSS - Enhanced 3-D terrain visualization, semi-automated feature extraction, data conflation, Hydrology, Battlefield Terrain Reasoning and Assessment (BTRA) enhancements, Urban(MOUT) TDAs and improved data base design (seamless enterprise database) | 0 | 5405 | 0 |
| Complete development of MCS-Engineer | 0 | 1500 | 0 |
| Continue P3I development for DTSS - Initiate transition of functionality to DCGS-A, continue investigation of COTS upgrades, continue improvement of coalition/joint interoperability. | 0 | 0 | 3199 |
| Totals | 8092 | 6905 | 3199 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 8096 | 6977 | 5965 |
| Current Budget (FY 2005 PB) | 8092 | 6905 | 3199 |
| Total Adjustments | -4 | -72 | -2766 |
| Congressional program reductions | | -65 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -4 | -7 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -2766 |

FY05: (-)$2715K, Funds realigned to higher priority requirements.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| OPA - KA2550 - Digital Topographic Support System (DTSS) | 16208 | 12907 | 9138 | 3058 | 14495 | 17668 | 13934 | Continue | Continue |

**D. Acquisition Strategy:** The Acquisition Strategy for the Digital Topographic Support System (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. Funding to support technology refreshment of the DTSS-H (DTSS-L will replace the DTSS-H in FY02/03)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 Combatant Commanders, 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 HVMP Acquisition Strategy utilizes 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. The HVMP contracting strategy is to execute the System Design and Demonstration (SDD) phase through the current SE&I contractor. A competitively awarded FFP contract was awarded to Sechan Electronics for the Full Rate Production of the HVMP. The computer workstations for CTIS programs are being procured, where appropriate, through the project manager for CHS.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 C/CPFF | Loral Corp, OH Lockheed Martin, PA | 23280 | 0 | | 0 | | 0 | | 0 | 23280 | 23280 |
| b . Primary Hardware Development | C/CPFF | Northrup Grumman, Chantilly, VA | 3295 | 700 | 1Q | 1110 | 1-4Q | 0 | | Continue | 5105 | Continue |
| c . ABCS SE&I | MIPR | PEO C3S, Ft. Monmouth, NJ | 150 | 140 | 1Q | 0 | | 0 | | 0 | 290 | 290 |
| | | | | | | | | | | | | |
| Subtotal: | | | 26725 | 840 | | 1110 | | 0 | | Continue | 28675 | 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 Lockheed Martin, PA | 34919 | 0 | | 0 | | 0 | | 0 | 34919 | 34919 |
| b . Software Development | C/CPFF | Northrup Grumman, Chantilly, VA | 14070 | 4363 | | 0 | | 0 | | 0 | 18433 | 18461 |
| c . Software Development | C/CPFF | Northrup Grumman, Chantilly, VA | 0 | 1500 | 3Q | 4401 | 1-4Q | 1574 | 1-4Q | Continue | 7475 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 5863 | | 4401 | | 1574 | | Continue | 60827 | 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 | AEC | 755 | 0 | | 0 | | 250 | 3Q | Continue | 1005 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 755 | 0 | | 0 | | 250 | | Continue | 1005 | 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 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d . Program Mgmt Personnel | MIPR | TEC, Ft. Belvoir, VA | 11780 | 1118 | 1-4Q | 1119 | 1-4Q | 1100 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 36580 | 1389 | | 1394 | | 1375 | | Continue | Continue | Continue |

Remarks: *This category primarily covers Office Automation

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 113049 | 8092 | | 6905 | | 3199 | | Continue | Continue | Continue |

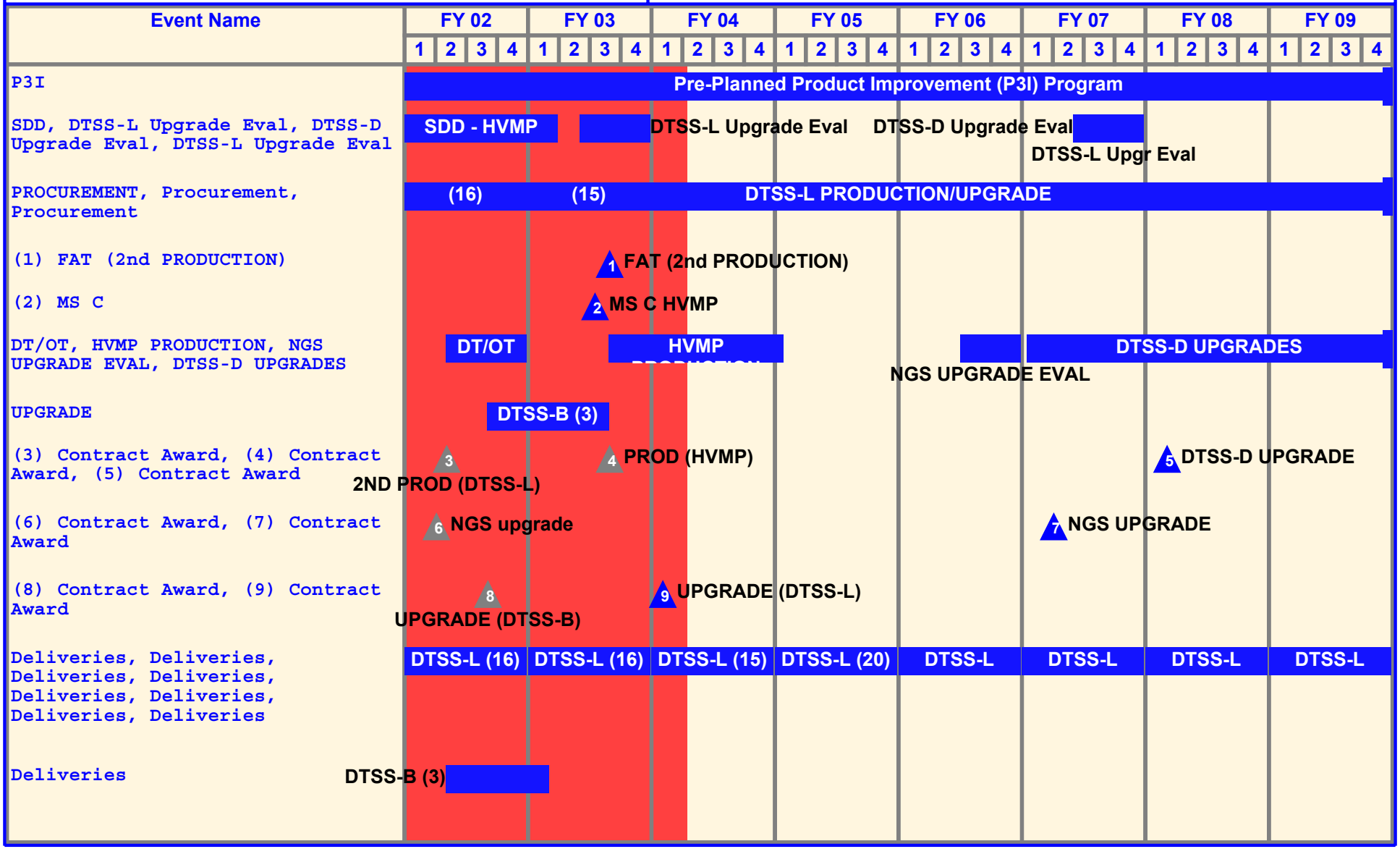
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604716A - TERRAIN INFORMATION - ENG DEV**

PROJECT
**579**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604716A - TERRAIN INFORMATION - ENG DEV** | **579** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award DTSS-L Production Contract/Options | 1Q | | | | | | |
| DTSS-L Production | 1-4Q | | | | | | |
| Continue DTSS P3I Program | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Field DTSS-L | 3-4Q | 3-4Q | | | | | |
| Technology Refreshment and Fielding of DTSS-D | | | | | 3-4Q | 1-2Q | |
| Technology Refreshment and Fielding of DTSS-B | | | | | | 1-3Q | |
| Continue SDD for HVMP (initiated in FY01) | 1Q | | | | | | |
| Milestone III for HVMP | 3Q | | | | | | |
| Production of HVMP | 3-4Q | 1-2Q | | | | | |
| Field DTSS Build 8.0 Software | 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 (DTSS-L) | | | | | 1-2Q | | |
| Technology Refreshment of HVMP | | | | | | 1-4Q | 1-4Q |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

| COST (In Thousands) | FY 2003 Actual | 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 | 3359 | 3275 | 2485 | 2369 | 2772 | 4502 | 4663 | Continuing | Continuing |
| D85 IMETS (TIARA) | 3359 | 3275 | 2435 | 2319 | 2722 | 4452 | 4613 | Continuing | Continuing |
| D86 IMETS TADSS (TIARA) | 0 | 0 | 50 | 50 | 50 | 50 | 50 | 0 | 250 |

**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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 1755 | 1896 | 3417 |
| Current Budget (FY 2005 PB) | 3359 | 3275 | 2485 |
| Total Adjustments | 1604 | 1379 | -932 |
| Congressional program reductions | | -31 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 1604 | 1410 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -932 |

FY03 funds realigned (+$1604K)
FY04 funds realigned (+$1379K)
FY05 funds realigned (-$932K) to higher priority requirements.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604726A - Integrated Meteorological Support System** | **D85** |

| COST (In Thousands) | FY 2003 Actual | 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) | 3359 | 3275 | 2435 | 2319 | 2722 | 4452 | 4613 | 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 Current Force to Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | 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 Tool into GCCS. Port the entire IMETS baseline software from UNIX to Intel Processor which is the objective IMETS Light processor. | 3059 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | 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. | 300 | 200 | 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 6.4. | 0 | 1211 | 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 | 400 | 333 |
| Complete porting and integration of IMETS software to a laptop configuration with a PC (Intel) processor. | 0 | 700 | 0 |
| Complete development, integration and testing of the intitial IMETS NOWCAST capability with 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 | 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 | 256 |
| Develop the capability to utilize high bandwidth Global Information Grid, Global Broadcast System (GBS), 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 | 300 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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 | 380 |
| 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 | 380 |
| 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 | 386 |
| 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 | 400 |
| Totals | 3359 | 3275 | 2435 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA 2 - SSN: BW0021-IMETS | 7034 | 11343 | 346 | 347 | 4064 | 6901 | 4165 | Continuing | Continuing |

**C. 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(R3)

**February 2004**

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 | 1157 | 1-4Q | 922 | 1-4Q | 1255 | 1-4Q | Continue | 14737 | 0 |
| b . Weather Applications SW Development and Integration | MIPR | ARL, White Sands Missile Range, NM | 5138 | 1643 | 1-4Q | 500 | 1-4Q | 680 | 1-4Q | Continue | 7961 | 0 |
| c . ABCS SE&I | MIPR | PEOC3T, Fort Monmouth, NJ | 0 | 59 | 1Q | 0 | | 0 | | 0 | 59 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16541 | 2859 | | 1422 | | 1935 | | Continue | 22757 | 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 | 100 | 1Q | Continue | Continue | 0 |
| b . Program Management Support | MIPR | PMO Intel Fusion, Fort Belvoir, VA | 1292 | 200 | 1Q | 200 | 1Q | 100 | 1Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2342 | 400 | | 400 | | 200 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 653 | 1Q | 0 | | Continue | 1505 | 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 | | 1453 | | 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(R3)

**February 2004**

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 | 3359 | | 3275 | | 2435 | | Continue | Continue | 0 |

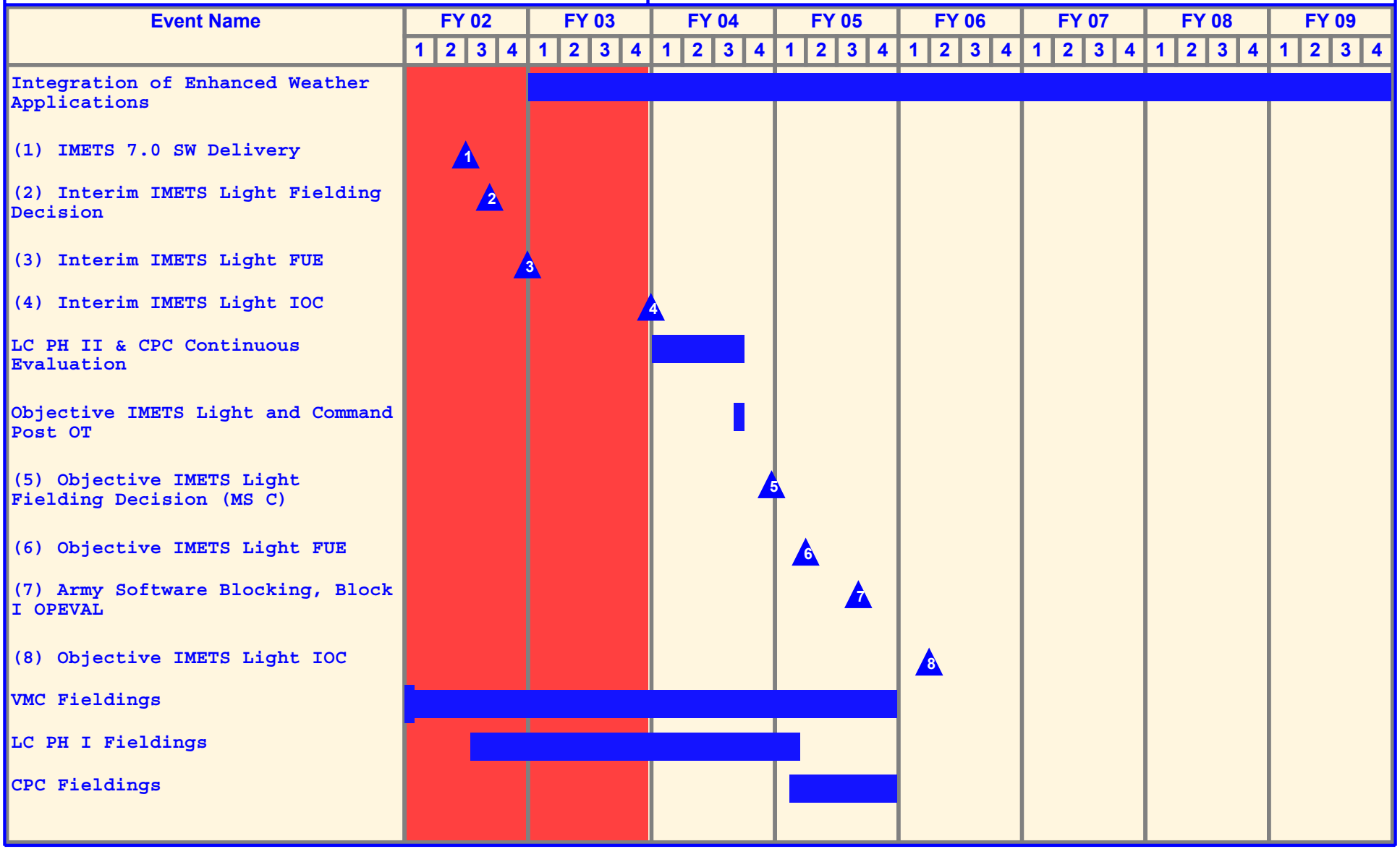
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604726A - Integrated Meteorological Support System**

PROJECT
**D85**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604726A - Integrated Meteorological Support System** | **D85** |

| Schedule Detail | 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 |
| Improve the Weather Feature Application on Common Tactical Picture (CTP). Enhancements to TAWS-A | 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 (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604738A - JSIMS Core Program** | **J11** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 28759 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58517 |

**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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Initiated Software Development for the JSIMS Joint Models and C4I adaptor by the Joint Development Agent. | 2613 | 0 | 0 |
| Initiated Test and Evaluation Activity Support. | 1625 | 0 | 0 |
| Initiated Research and development support services for JSIMS Integration. | 5983 | 0 | 0 |
| Initiated Government engineering support services for JSIMS Integration. | 4829 | 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. | 10109 | 0 | 0 |
| Close out costs. | 3600 | 0 | 0 |
| Totals | 28759 | 0 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604738A - JSIMS Core Program** | **J11** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 19213 | 0 | 0 |
| Current Budget (FY 2005 PB) | 28759 | 0 | 0 |
| Total Adjustments | 9546 | 0 | 0 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 9546 | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | |

JSIMS and all partner programs have been revised to discontinue development in FY03. FY03 reprogramming was for orderly program termination and close out costs.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| OMA - Joint Models and C4I Adaptor Maintenance for JSIMS. | 1260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1945 |
| OMA - Common Component Maintenance for JSIMS software support. | 3170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5321 |
| OMA - Alliance Software Support Facility for Baseline Integration/Upgrades. | 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 BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 26983 | 28993 | 27376 | 29948 | 21308 | 21062 | 20514 | Continuing | Continuing |
| 126 | FAAD C2 ED | 11515 | 15367 | 14284 | 16098 | 10057 | 9721 | 9809 | Continuing | Continuing |
| 146 | AIR & MSL DEFENSE PLANNING CONTROL SYS (AMC PCS) | 15468 | 13626 | 13092 | 13850 | 11251 | 11341 | 10705 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System with Homeland Defense capabilities that allows for the integration of Air and Missile Defense (AMD)operations for Air Defense Artillery (ADA) Brigades at Corps and Echelons above Corps (EAC), the Army Air and Missile Defense Command (AAMDC) Headquarters, at Army, Joint, or Coalition level forces.

AMDPCS is the backbone of Army Air Defense, operating through the Battle Management/Command, Control, Communications, Computers, and Intelligence (BM/C4I), and the common tactical and operational air picture, (2) Air Defense System Integrator (ADSI), a communications data link processor and display system, provides real time joint airspace situational awareness and fire direction Command and Control (C2) for AMD, and (3) shelter configurations using computer hardware and tactical communications equipment (e.g., JTIDS 2M Terminals, Commanders Tactical Terminal). The AMDPCS enables Active, Passive and Attack Operations coordination and a correlated single integrated air picture (SIAP) to Army AMD and Joint Forces. The AMDPCS provides the Army Battle Command System (ABCS) architecture and the Army AMD Task Forces (AMDTF) with Joint BM/C4I capability and the Army component of interoperabile Joint Theater Air and Missile Defense (JTAMD) BM/C4I.

In addition, the 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 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. A small portion of RDTE funding is dedicated to SLAMRAAM C2 threshold requirements. 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 Ssytem (FCS).

These systems support the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 27262 | 29297 | 32415 |
| Current Budget (FY 2005 PB) | 26983 | 28993 | 27376 |
| Total Adjustments | -279 | -304 | -5039 |
| Congressional program reductions | | -275 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -279 | -29 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -5039 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2004**

| 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 2003 Actual | 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 | 11515 | 15367 | 14284 | 16098 | 10057 | 9721 | 9809 | Continuing | Continuing |

**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. A small portion of RDTE funding is dedicated to SLAMRAAM C2 threshold requirements. 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 Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue Block III software engineering and development for FDD DCX2, III (Digitized) Corps, SBCTs and SDD. | 7631 | 8863 | 8585 |
| 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. | 3734 | 6092 | 5699 |
| Army Battle Command Systems (ABCS) SE&I | 150 | 0 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 412 | 0 |
| Totals | 11515 | 15367 | 14284 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA 2, AD5050 - FAAD C2 | 24109 | 25329 | 12873 | 11196 | 15826 | 12687 | 14959 | Continuing | Continuing |
| Spares (BS9702) - FAAD C2 | 562 | 734 | 716 | 877 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**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 | 7993 | 1Q | 10752 | 1Q | 9962 | 1Q | Continue | 90937 | 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 | 11275 | | 15177 | | 13997 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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(R3)

**February 2004**

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 | 11515 | | 15367 | | 14284 | | Continue | Continue | 0 |

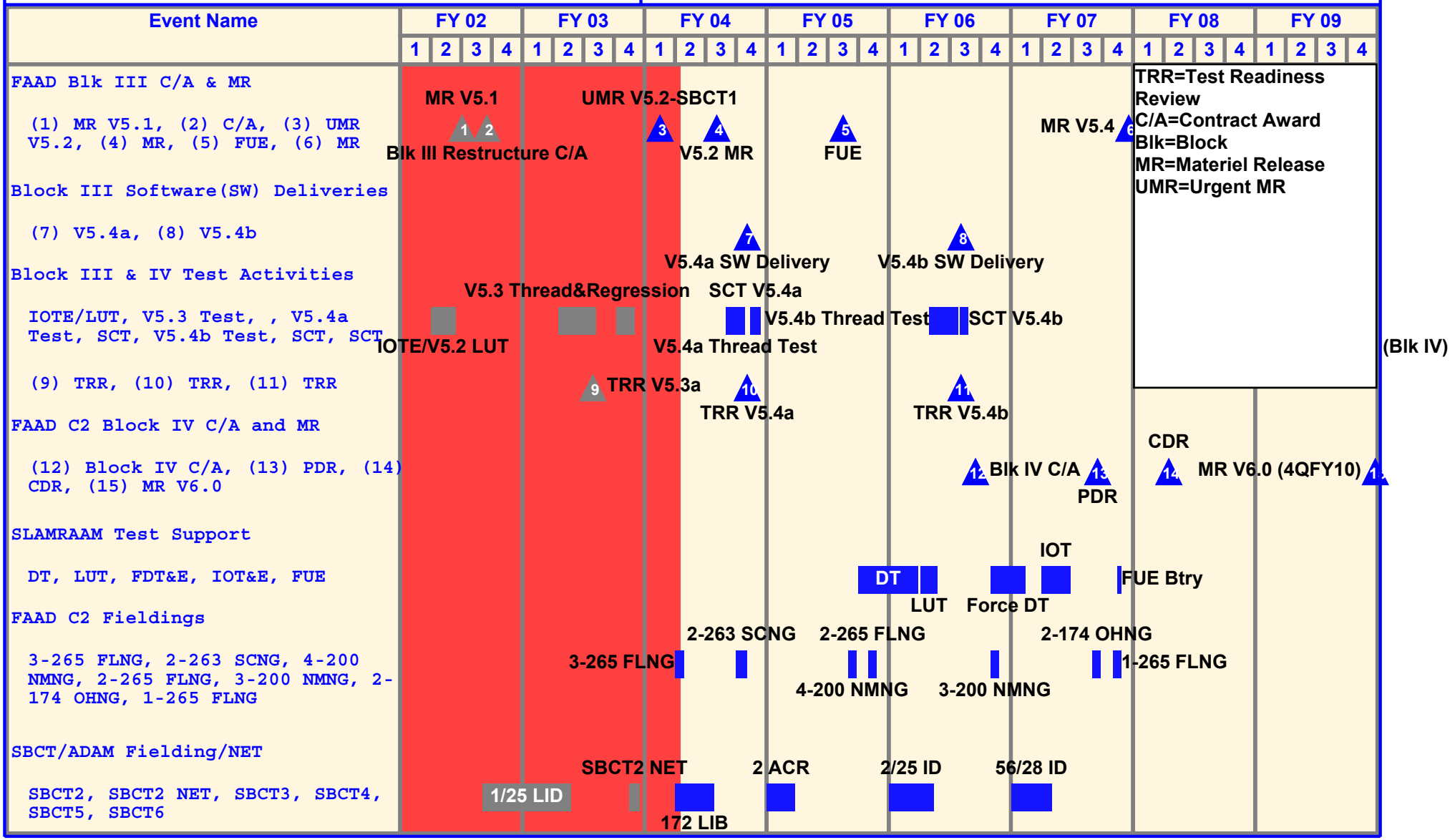
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
126



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **126** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Preliminary/Critical Design Review/TRR | 3Q | 3Q | | 3Q | | | |
| System Certification Test/Thread Testing | 3Q | 4Q | | 4Q | | | 4Q |
| First Unit Equipped - V5.2 | | | 3Q | | | | |
| Contract Award, BLK IV | | | | 3Q | | | |
| Preliminary/Critical Design Review, BLK IV | | | | | 3Q | 4Q | |

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

**February 2004**

| 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 2003 Actual | 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) | 15468 | 13626 | 13092 | 13850 | 11251 | 11341 | 10705 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System with Homeland Defense capabilities that allows for the integration of Air and Missile Defense (AMD) operations for Air Defense Artillery (ADA) Brigades at corps and Echelons above Corps (EAC), the Army Air and Missile Defense Command (AAMDC) Headquarters, at Army, Joint, or Coalition level forces.

AMDPCS is the backbone of Army Air Defense, operating through the Battle Management/Command, Control, Communications, Computers, and Intelligence (BM/C4I), and is composed of three parts: (1) Air and Missile Defense Workstation (AMDWS), an automated mission (defense and staff) planning and situational awareness tool to achieve the common tactical and operational air picture, (2) Air Defense System Integrator (ADSI), a communications data link processor and display system, provides real time joint airspace situational awareness and fire direction Command and Control (C2) for AMD, and (3) shelter configurations using computer hardware and tactical communications equipment (e.g., JTIDS 2M Terminals, Commanders Tactical Terminal). The AMDPCS enables Active, Passive and Attack Operations coordination and a correlated single integrated air picture (SIAP) to Army AMD and Joint Forces. The AMDPCS provides the Army Battle Command System (ABCS) architecture and the Army AMD Task Forces (AMDTF) with Joint BM/C4I capability and the Army component of interoperable Joint Theater Air and Missile Defense (JTAMD) BM/C4I.

In addition, the 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.

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

| **Accomplishments/Planned Program** | 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. | 9016 | 7780 | 7348 |
| Continue ADSI software engineering and development for III (Digitized) Corps, SDD, AMD FOS, JTAMD FOS integration | 2080 | 1820 | 1901 |
| Continue software systems certification testing; continue Army and Joint integration and interoperability assessments | 805 | 980 | 1077 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue AMDPCS sheltered subsystems configuration engineering, development, test and evaluation; SIAP concept and re-engineering. | 3302 | 2660 | 2766 |
| ABCS SE&I | 265 | 0 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 386 | 0 |
| Totals | 15468 | 13626 | 13092 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA, AD 5070 - AMDPCS | 12087 | 8929 | 6400 | 3700 | 7382 | 10874 | 8293 | 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(R3)

**February 2004**

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 | 7783 | 1Q | 7186 | 1Q | 7143 | 1Q | Continue | 34700 | 0 |
| b . APC, ADSI | SS/CPIF | Austin, TX | 2870 | 956 | 2Q | 800 | 1Q | 379 | 1Q | Continue | 5005 | 0 |
| c . In-house Government Support | Various | Various | 3053 | 2037 | 2Q | 2011 | 2Q | 2019 | 2Q | Continue | 9120 | 0 |
| d . MATRIX | MIPR | Various | 3476 | 2316 | 2Q | 1986 | 2Q | 2035 | 1Q | Continue | 9813 | 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 | 1253 | 2-3Q | Continue | 4574 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 22341 | 15234 | | 13427 | | 12829 | | Continue | 63831 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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(R3)

**February 2004**

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 | 15468 | | 13626 | | 13092 | | Continue | Continue | 0 |

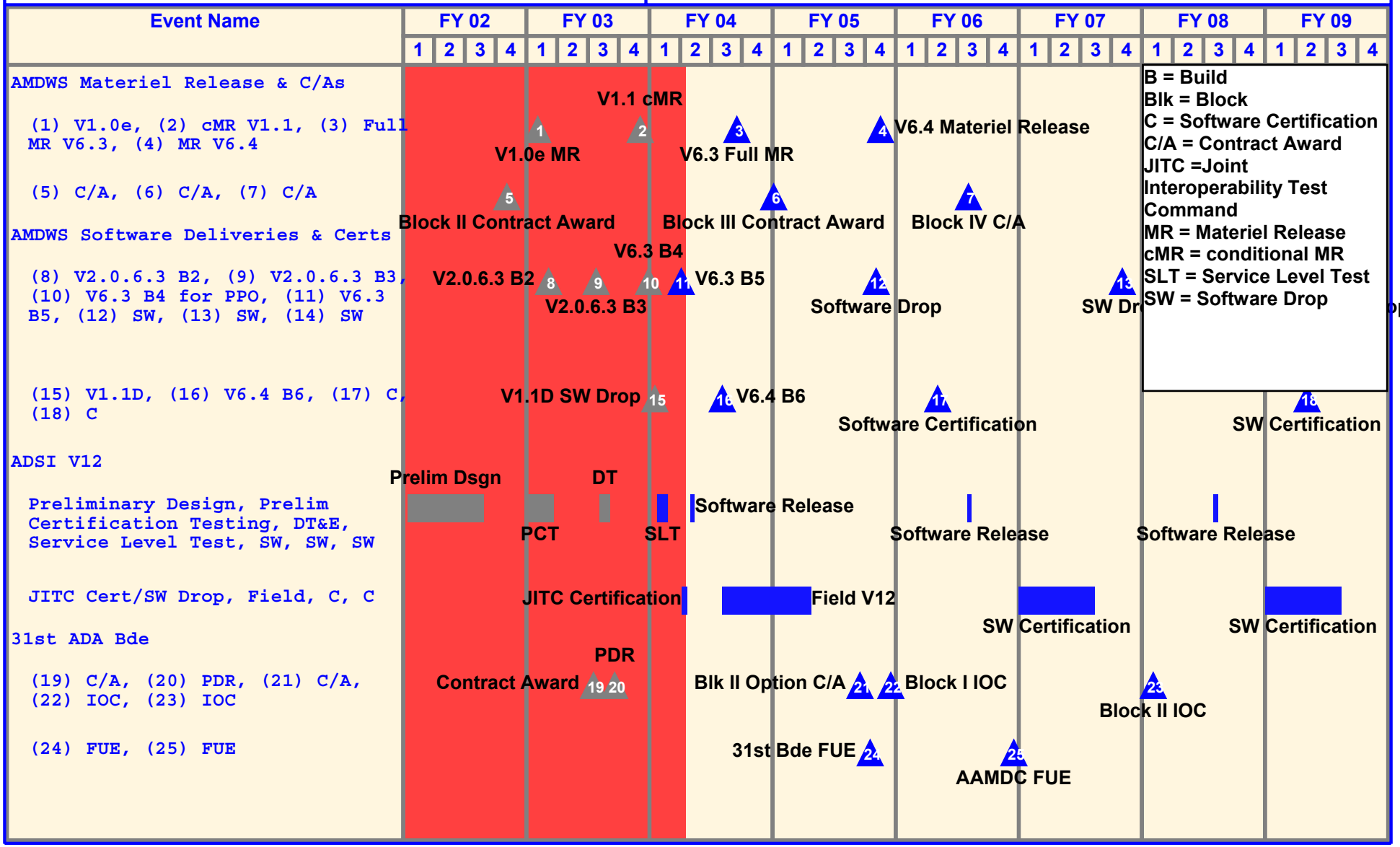
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
146



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604741A - Air Defense Command, Control and Intel - Eng** | **146** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Systems Certification Testing - AMDWS/ADSI/AMDPCS | 4Q | 4Q | | | 4Q | | 4Q |
| AMDWS Software Release, 1.1D (Oct 03), B.4 (Oct 03), B.5 (Jan 04), B.6 (May 04 | | 1-3Q | 4Q | | 4Q | | 4Q |
| AMDWS Software Certification | 3-4Q | | | 2-4Q | | | 2-4Q |
| ADSI Software Release (V.12) | | 3Q | | 3Q | | 3Q | |
| ADSI Software Certification | | 2Q | 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 (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** |

| COST (In Thousands) | FY 2003 Actual | 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 | 43673 | 16818 | 42869 | 33576 | 24750 | 23195 | 22380 | Continuing | Continuing |
| 361 INTELLIGENCE SIMULATION SYSTEMS | 7028 | 2251 | 1192 | 1227 | 1024 | 1246 | 1270 | Continuing | Continuing |
| 362 WARFIGHTER SIMULATION | 36645 | 14567 | 41677 | 32349 | 23726 | 21949 | 21110 | Continuing | Continuing |

**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 the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) that provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance (ISR) product based on realistic ISR assets, people (maneuver commander, G-2, G-3, collection managers analyst/operator) and processes. IEWTPT provides embedded training capability for Future Combat Systems (FCS) ISR systems. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System- Common Ground Station (JSTARS-CGS), Aerial Common Sensor(ACS), Tactical Exploitation System/Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator. The FY05 funding completes initial development and continues product improvements of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT). 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. 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. WARSIM will interoperate with OneSAF and other simulation as an integral part of Army Constructive Training Federation (ACTF), so that a warfighter training exercise can represent in simulation all Army echelons and in a Joint environment. ACTF pulls together current constructive simulation systems and future constructive simulations and uses a comprehensive strategy to ensure interoperability among all of those systems. This strategy will allow ACTF to meet current and future user needs. ACTF leverages the best pieces of current systems to meet current training needs and evolves to meet the training needs of the future force.

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 43813 | 16994 | 1155 |
| Current Budget (FY 2005 PB) | 43673 | 16818 | 42869 |
| Total Adjustments | -140 | -176 | 41714 |
| Congressional program reductions | | -159 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -140 | -17 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 41714 |

Army restored funding to the WARSIM Program to support constructive simulation development.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **361** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 7028 | 2251 | 1192 | 1227 | 1024 | 1246 | 1270 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT)provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance (ISR) product based on realistic ISR assets, people (maneuver commander, G-2, G-3, collection managers analyst/operator) and processes. IEWTPT provides embedded training capability for Future Combat Systems (FCS) ISR systems. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System- Common Ground Station (JSTARS-CGS), Aerial Common Sensor(ACS), Tactical Exploitation System/Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator. The FY05 funding completes initial development and continues product improvements of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT).

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continued product improvement with interoperability testing with system Target Signature Arrays (TSA) of IEWTPT. | 5754 | 770 | 357 |
| Continues IEWTPT Program Management support | 226 | 233 | 130 |
| Continues IEWTPT Test planning and execution. | 307 | 421 | 213 |
| Continues IEWTPT Systems engineering, documentation, and Security accreditation and certification. IEWTPT Engineering Change Proposals. | 741 | 776 | 492 |
| SBIR/STTR | 0 | 51 | 0 |
| Totals | 7028 | 2251 | 1192 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0100, Training Devices, Nonsystem | 156811 | 311963 | 241946 | 197566 | 226341 | 171085 | 209303 | Continuing | Continuing |

**C. Acquisition Strategy:** Competitive development based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 5754 | 1-3Q | 770 | 1-3Q | 357 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 6983 | 5754 | | 770 | | 357 | | 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 . IEWTPT Engineering & Technical Support | Multiple | Various | 587 | 741 | 1-4Q | 827 | 1-4Q | 492 | 1-4Q | Continue | 2647 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 587 | 741 | | 827 | | 492 | | Continue | 2647 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 TEMP Support | Various | Multiple | 90 | 104 | 1-2Q | 125 | 1-4Q | 50 | 1-2Q | Continue | Continue | Continue |
| b . IEWTPT Operational Test Event Support | Various | Multiple | 87 | 103 | 1-3Q | 236 | 1-3Q | 98 | 1-2Q | 0 | 524 | 0 |
| c . Test Engineer Support | MIPR | NAVAIR Orlando (was NAWC-TSD) | 84 | 100 | 1-4Q | 60 | 1-4Q | 65 | | 0 | 309 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 261 | 307 | | 421 | | 213 | | 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 . IEWTPT Program Management | Various | Multiple | 413 | 226 | 1-4Q | 233 | 1-4Q | 130 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 413 | 226 | | 233 | | 130 | | Continue | Continue | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 8244 | 7028 | | 2251 | | 1192 | | Continue | Continue | Continue |

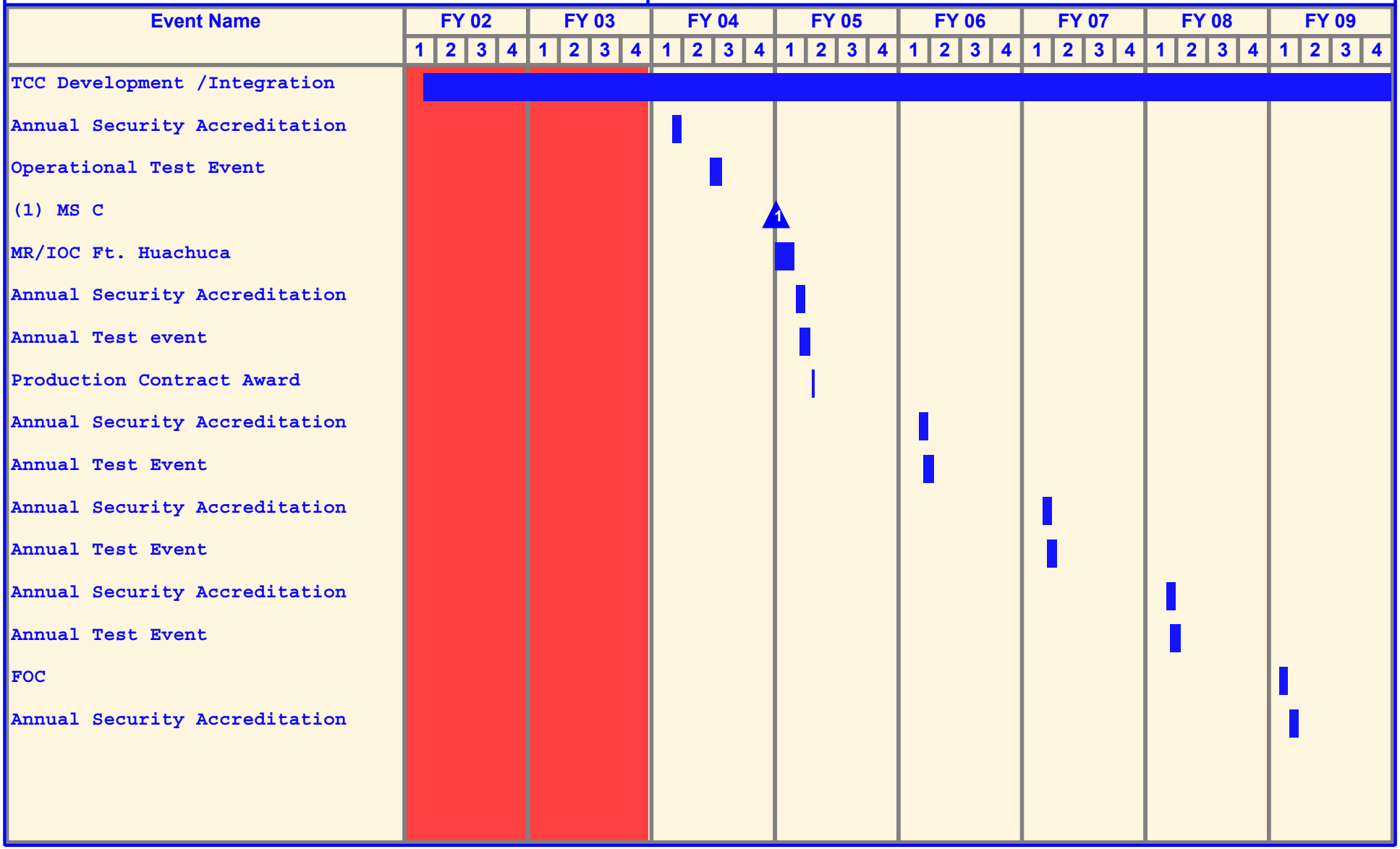
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**361**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **361** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| IEWTPT CONTRACT AWARD | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q | 1-2Q |
| IEWTPT Operational Test | | | 1Q | | | | |
| IEWTPT Milestone C | | 4Q | | | | | |
| IEWTPT Material Release | | | 1Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **362** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 36645 | 14567 | 41677 | 32349 | 23726 | 21949 | 21110 | Continuing | Continuing |

**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 as an integral part of Army Constructive Training Federation (ACTF), so that a warfighter training exercise can represent in simulation all Army echelons and in a joint environment. 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 FY05 funding continues the development of the Army training system, integration and system evaluation.
ACTF leverages the best pieces of current systems to meet current training needs and evolves to meet the training needs of the future force.

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

| Accomplishments/Planned Program | 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. | 10855 | 0 | 0 |
| Completed software development and integration of Joint Tactical Intelligence Model (JTIM) within JSIMS. | 5382 | 0 | 0 |
| Verify and Validate WARSIM software models | 823 | 1178 | 3632 |
| Develop and integrate JSIMS Common Component Work Station (CCWS) and system Technical Control improvements. | 1544 | 0 | 0 |
| Continue the software development of WARSIM and integration of ACTF components for interoperability. | 13554 | 8607 | 23518 |
| Develop user interface enhancements for Army training applications. | 2450 | 2706 | 9079 |
| Develop and evaluate system performance and conduct system test events | 2037 | 1766 | 5448 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 310 | 0 |
| Totals | 36645 | 14567 | 41677 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Other Procurement, Army, NSTD Command & Control (NA0103) | 0 | 0 | 10788 | 57429 | 51156 | 1871 | 18441 | Continuing | Continuing |

**C. Acquisition Strategy:** Competitive development based on performance specifications.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | Lockheed Martin Info Sys, Orlando FL | 0 | 9320 | 2-3Q | 10267 | 1-3Q | 21093 | 1-3Q | Continue | Continue | Continue |
| e . Integration of ACTF | C/CPAF | TBD | 0 | 0 | | 0 | | 7976 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 49729 | 25192 | | 10267 | | 29069 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1110 | 1-4Q | 2580 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2394 | 2714 | | 1110 | | 2580 | | 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 . Verification, Validation and Accreditation | Multiple | Various | 928 | 991 | 1-3Q | 309 | 1-3Q | 3082 | 1-3Q | Continue | Continue | Continue |
| b . WARSIM System Evaluation and Test | Multiple | Various | 2606 | 3472 | 1-2Q | 189 | 1-3Q | 1795 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3534 | 4463 | | 498 | | 4877 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 4032 | 1Q | 2613 | 1-2Q | 4957 | 1-2Q | Continue | Continue | Continue |
| b . Cost Analysis Support | T&M | Northrup Grumman-TASC, Orlando FL | 170 | 244 | 2-3Q | 79 | 2-3Q | 194 | 2-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4478 | 4276 | | 2692 | | 5151 | | Continue | Continue | Continue |
| Project Total Cost: | | | 60135 | 36645 | | 14567 | | 41677 | | Continue | Continue | Continue |

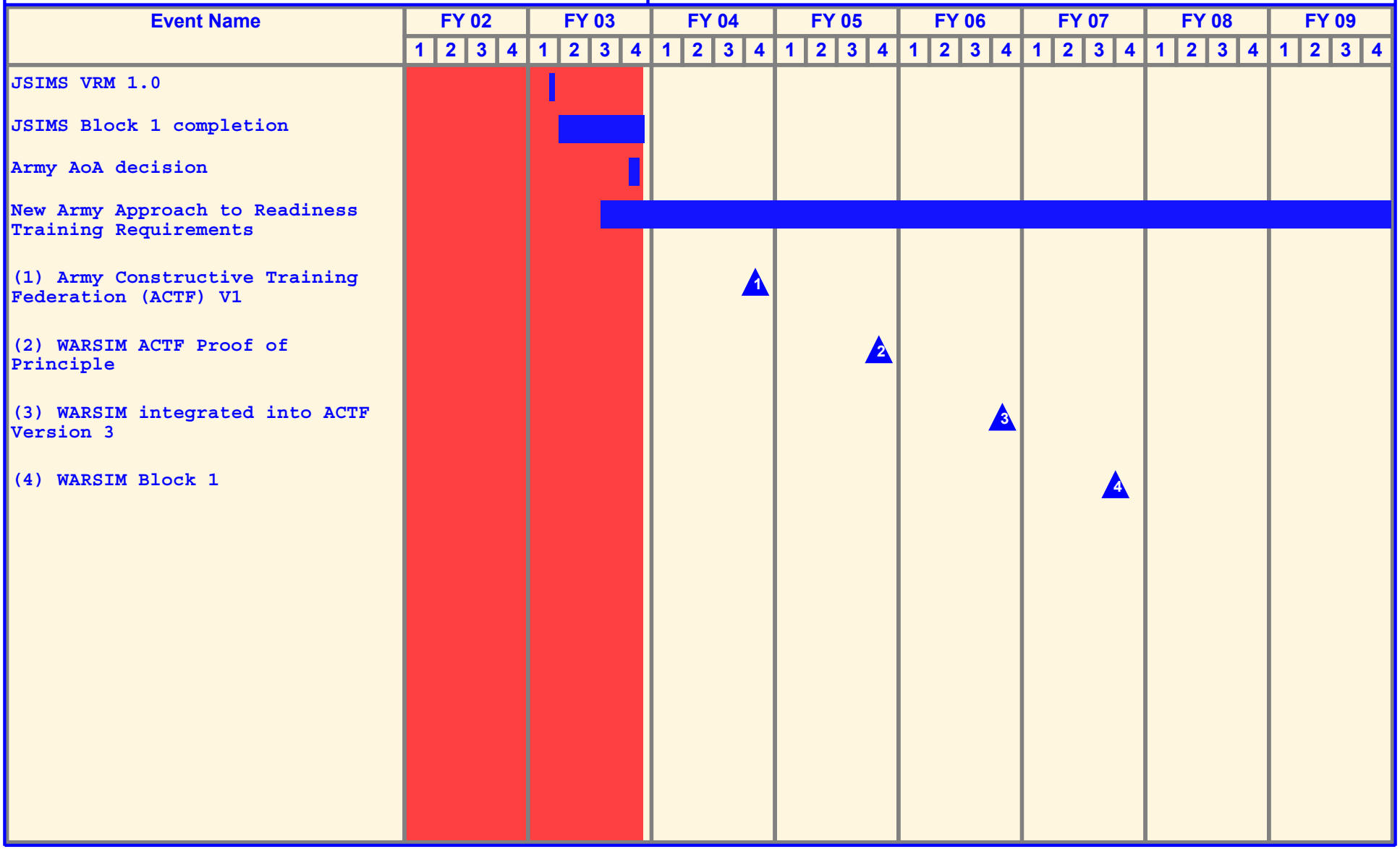
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**

PROJECT
**362**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT** | **362** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award WARSIM System Development Contract | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q |
| JSIMS Version 1.0 Release | 1Q | | | | | | |
| Closeout JTIM Contract | 4Q | | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 12647 | 11316 | 4713 | 7514 | 7893 | 11034 | 11252 | Continuing | Continuing |
| L59 | DIAGNOST/EXPERT SYS DE | 5104 | 10275 | 3579 | 5036 | 5294 | 7730 | 7882 | Continuing | Continuing |
| L65 | TEST EQUIPMENT DEVELOPMENT | 935 | 1041 | 1134 | 2478 | 2599 | 3304 | 3370 | Continuing | Continuing |
| L66 | EMBEDDED DIAGNOSTICS/PROGNOSTICS DEVELOPMENT | 6608 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20532 |

**A. Mission Description and Budget Item Justification:** This program element (PE) provides for the development and testing of general-purpose on- and off-platform automatic test equipment; advanced technology calibration techniques, standards, and systems; and common embedded diagnostics/prognostics technology, software, and systems to support increasingly complex electronic weapon systems. It focuses on implementation of commercial state-of-the-art test technologies across multiple weapon platforms to minimize the cost of troubleshooting and maintenance of Army equipment in the field.

This program element funds development and evolution of general-purpose automatic test and diagnostic equipment and the enhancements required to overcome deficiencies and voids in organic test and diagnostic capabilities to ensure the operational readiness, accuracy, effectiveness, and safety of Army combat systems. Modular, reconfigurable automatic and semi-automatic systems are developed under this program to satisfy weapon system test and diagnostic requirements. The Next Generation Automatic Test System (NGATS), Base Shop Test Facility(BSTF)(V)6, is under development to provide test capabilities required to support current and future weapon systems. This system will replace several aging automatic test systems which are becoming prohibitively expensive to operate and maintain. This program also provides for continued development and improvement of calibration equipment with emphasis on incorporation of digital electronics and tailoring of configurations to improve deployability, mobility, and survivability of the support equipment and to reduce the logistics burdens associated with supporting Army combat systems in wartime and contingency operations. Artificial intelligence, embedded diagnostics, and anticipatory maintenance applications are being developed to support the integration of self-diagnostic capability in Army weapon systems. The goal of these efforts is to reduce the logistics burden and improve readiness through minimizing the need for external testers and to improve the troubleshooting abilities of soldiers in the field.

The Army's participation in development of a Joint Service Automatic Test System Next Generation Test (NxTest) architecture is being funded under this program element. The goal of the NxTest project is to reduce Department of Defense equipment, personnel, and funding burdens by allowing all Services' test program sets to execute on a common test system architecture. The Joint Service system will reduce proliferation of Service-specific automatic test systems in a theater.

These projects support the Current to Future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 12899 | 4634 | 4707 |
| Current Budget (FY 2005 PB) | 12647 | 11316 | 4713 |
| Total Adjustments | -252 | 6682 | 6 |
| Congressional program reductions | | -107 | |
| Congressional rescissions | | | |
| Congressional increases | | 6800 | |
| Reprogrammings | -252 | -11 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 6 |

FY04 funds reflect a Congressional increase of $6,800,000 for Project L59 to support the Electro-Optic Test Facility (EOTF) and the Base Shop Test Facility (BSTF) (V) 6.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L59** |

| COST (In Thousands) | FY 2003 Actual | 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 | 5104 | 10275 | 3579 | 5036 | 5294 | 7730 | 7882 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds development of and system enhancements for general-purpose automatic test equipment and development/refinement of common embedded diagnostics and prognostics techniques and systems. The equipment and diagnostic processes developed under this project are required to overcome existing deficiences and voids in organic test and diagnostic capabilities and to ensure the operational readiness, accuracy, and effectiveness of the Army weapons and combat support systems. The Next Generation Automatic Test System (NGATS), Base Shop Test Facility (BSTF) (V)6, currently under development will provide test and diagnostic capabilities required to support current and future combat systems. Projects are also underway to demonstrate an embedded health and usage monitoring system for implementation on Army helicopters and to provide prognostics capability through use of an anticipatory maintenance system. This project provides for continuing efforts to improve general-purpose automatic test equipment required to satisfy test and diagnostic requirements of new and upgraded Army weapon systems; development and validation of test and diagnostic software; development and testing of common procedures, software applications, and hardware devices that can be embedded in weapon systems; development of added prognostic capabilities through expansion of anticipatory maintenance systems; and market surveys of commercially available test equipment, methods, and procedures to determine applicability to Army requirements. This project also funds the Army's participation in the Joint Service Next Generation Test (NxTest) Technical Working Group which is developing a common automatic test systems architecture that will enhance portability of all Services' test program sets and reduce Defense expenditures for test equipment and personnel.

This project supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Evaluate new electro-optic technologies for the Integrated Family of Test Equipment (IFTE). | 303 | 310 | 207 |
| Develop and evaluate new software applications for the IFTE. | 689 | 794 | 625 |
| Develop prototype for a more rapidly deployable automatic test system. | 4112 | 8887 | 2747 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 284 | 0 |
| Totals | 5104 | 10275 | 3579 |

| **B. Other Program Funding Summary** | 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) | 72354 | 35487 | 4054 | 3196 | 78341 | 127080 | 132408 | Continuing | Continuing |

**C. Acquisition Strategy:** This developmental project consists of cooperative in-house and competitive and sole-source contractual actions. When the necessary expertise and capability are available within the Department of Defense (DoD), services required for the individual development 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 the Next Generation Automatic Test System and the Electro-Optics Test Facility software applications are being completed under a sole-source contract awarded to the prime contractor for the Integrated Family of Test Equipment off-platform testers.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 - Next Generation ATS BSTF(V)6 | SS/CPFF | Northrop Grumman, Rolling Meadows, IL | 4365 | 4096 | 2-4Q | 9356 | 1-3Q | 2947 | 2Q | Continue | 20764 | 0 |
| b . Software Development - IFTE | SS/CPFF | Northrop Grumman, Rolling Meadows, IL | 2147 | 0 | | 0 | | 0 | | 0 | 2147 | 0 |
| c . Systems Engineering - IFTE | Various | Various | 37067 | 0 | | 0 | | 0 | | 0 | 37067 | 0 |
| d . Software Development - IFTE | Various | Various | 24901 | 0 | | 300 | 3-4Q | 0 | | 0 | 25201 | 0 |
| e . Government Engineering - IFTE | | Various | 7962 | 614 | 2Q | 225 | 1-2Q | 227 | 1-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 76442 | 4710 | | 9881 | | 3174 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 - IFTE | 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 . BSTF (V)6 | Various | Various | 481 | 0 | | 0 | | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1911 | 0 | | 0 | | 0 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 7565 | 289 | 1-4Q | 282 | 1-4Q | 289 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7565 | 289 | | 282 | | 289 | | Continue | Continue | 0 |
| Project Total Cost: | | | 87085 | 5104 | | 10275 | | 3579 | | Continue | Continue | 0 |

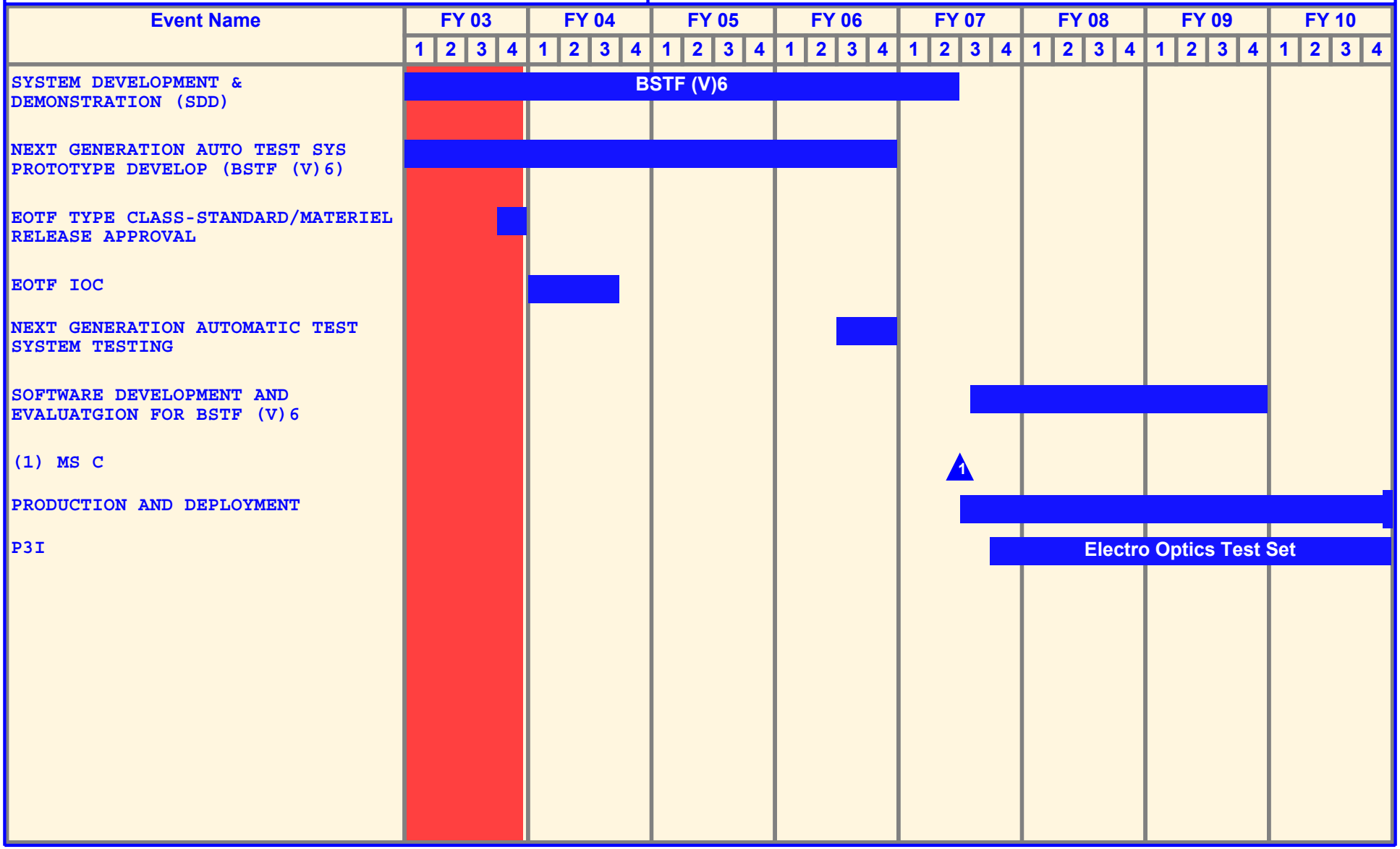
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L59**



# Schedule Detail (R4a Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L59**

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| EOTF Type Classification-Standard/Materiel Release Approval | 4Q | | | | | | |
| EOTF Initial Operational Capability | | 1-3Q | | | | | |
| Next Generation Automatic Test System Prototype Development (BSTF (V)6) | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | | |
| Next Generation Automatic Test System (BSTF (V)6) Testing | | | | 3-4Q | | | |
| Next Generation Automatic Test System (BSTF (V)6) Milestone C | | | | | 2Q | | |
| Software Development and Evaluation for BSTF(V)6 | | | | | 3-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L65** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 935 | 1041 | 1134 | 2478 | 2599 | 3304 | 3370 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports development and demonstration of state-of-the-art general-purpose test, measurement, and diagnostic equipment (TMDE), and it provides for feasibility studies, market research, inventory analyses, bid sample testing, and prototyping to support TMDE acquisitions. Primary efforts under this project include improvement of test and measurement equipment performance envelopes via preplanned project improvements (P3I), development and validation of test and calibration procedures, evaluation of commercial and nondevelopmental TMDE with potential to meet weapon system maintenance requirements, and development and evaluation of advanced technology and higher reliability electronic test and calibration equipment. Preplanned product improvements are underway to current test and measurement systems to overcome deficiencies and voids in existing organic capabilities and to ensure the operational readiness, accuracy, effectiveness, and safety of Army weapons and combat support systems. These improvements will employ reconfigurable open electronics architecture and computer-based instrumentation wherever feasible and will be focused on reducing test equipment footprints to improve deployability and mobility in the area of operations.

This project supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop hardware via preplanned product improvements to enhance TMDE systems' performance capabilities. | 560 | 270 | 236 |
| Test and integrate hardware developed for preplanned product improvements. | 165 | 130 | 320 |
| Initiate study and develop prototype plans for an enhanced diagnostic repair capability. | 50 | 0 | 0 |
| Develop, evaluate, and integrate test and measurement equipment. | 0 | 461 | 408 |
| Develop and evaluate test and calibration procedures. | 60 | 50 | 70 |
| Perform market research and evaluation of commercial equipment and develop performance specifications for acquisitions. | 100 | 100 | 100 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 30 | 0 |
| Totals | 935 | 1041 | 1134 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, N10000, Calibration Sets Equipment | 15924 | 18168 | 0 | 0 | 0 | 0 | 0 | 0 | 49911 |
| OPA3, N11000, Test Equipment Modernization | 16328 | 14609 | 5214 | 9722 | 9398 | 9682 | 21653 | 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(R3)

**February 2004**

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 | Various | Various | 4632 | 436 | 1-2Q | 534 | 1-2Q | 422 | 1-2Q | Continue | 6024 | 0 |
| b . Procedures Development and Evaluation | Various | Various | 1738 | 60 | 2Q | 50 | 2Q | 70 | 1-3Q | Continue | Continue | 0 |
| c . Government Engineering | | Various | 912 | 144 | 1-4Q | 140 | 1-4Q | 145 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7282 | 640 | | 724 | | 637 | | 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 . Technical Support Services | Various | Various | 438 | 100 | 2Q | 100 | 2Q | 100 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 438 | 100 | | 100 | | 100 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L65**

| 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 | 65 | 1-2Q | 75 | 1-2Q | 250 | 1-2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 662 | 65 | | 75 | | 250 | | 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 . Program Management Personnel | | Various | 125 | 130 | 1-4Q | 142 | 1-4Q | 147 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 125 | 130 | | 142 | | 147 | | Continue | Continue | 0 |
| Project Total Cost: | | | 8507 | 935 | | 1041 | | 1134 | | Continue | Continue | 0 |

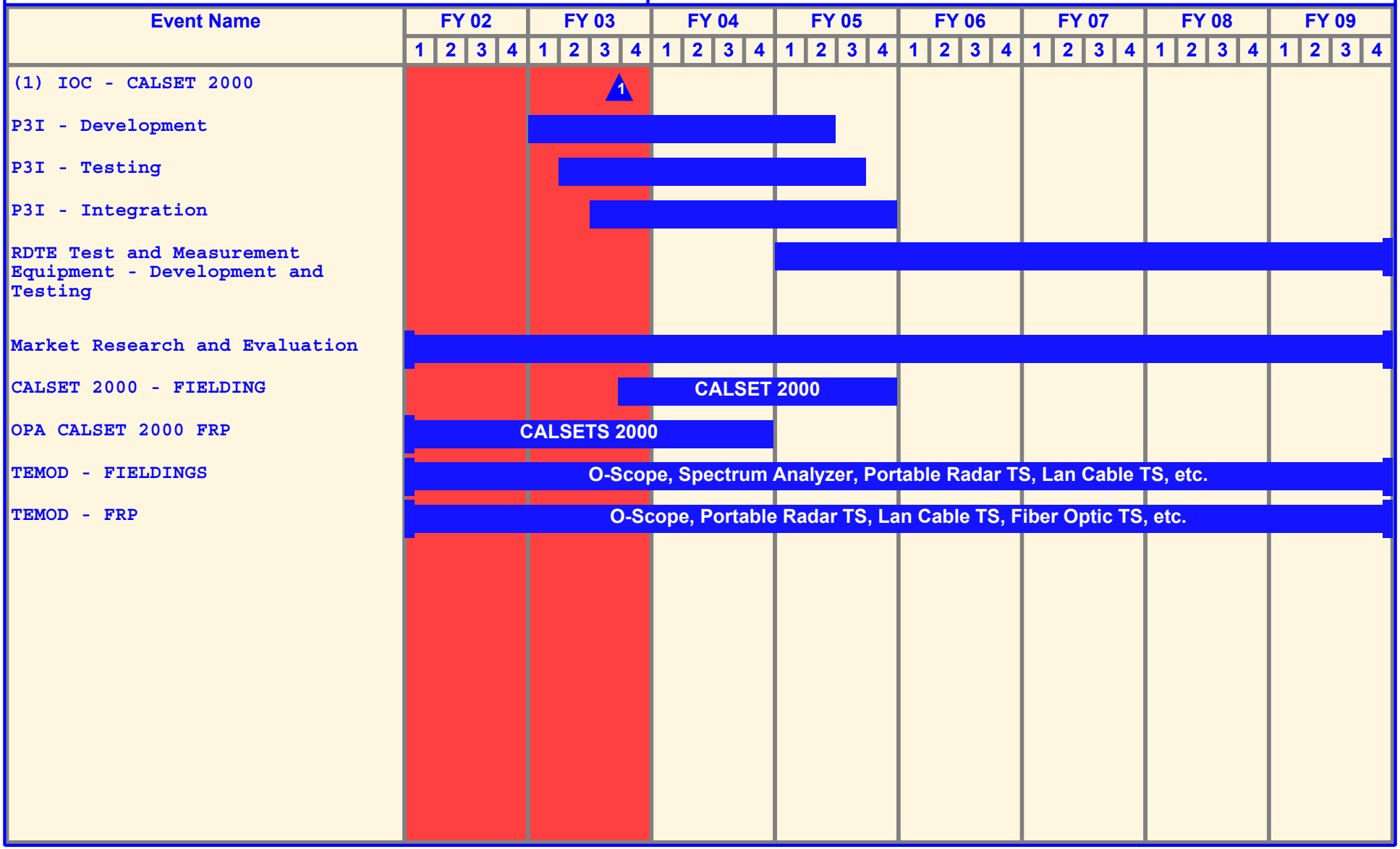
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604746A - Automatic Test Equipment Development**

PROJECT
**L65**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L65** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CALSET 2000 Initial Operational Capability | 3Q | | | | | | |
| P3I TMDE Development | 1-4Q | 1-4Q | 1-2Q | | | | |
| P3I Testing | 1-4Q | 1-4Q | 1-3Q | | | | |
| P3I - Integration | 3-4Q | 1-4Q | 1-4Q | | | | |
| Test and Measurement Equipment - Development | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Test and Measurement Equipment - Testing | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| 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 |

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 test and calibration systems being developed under this project are shown in the table above.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604746A - Automatic Test Equipment Development** | **L66** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 6608 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20532 |

**A. Mission Description and Budget Item Justification:** This project funded the development and demostration efforts of the Army Diagnostics Improvement Program (ADIP). ADIP developed and tested common procedures, software applications, and hardware devices that could be embedded in weapon systems. Included in this effort were a common Health and Usage Monitoring System (HUMS) for Army helicopters. A similar system is being explored for ground-based systems. The ADIP system was terminated at the end of FY03.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Began and continued demonstration of Digital Source Collector (DSC) on UH-60L and CH-47D. | 2856 | 0 | 0 |
| Continued evaluation of predictive maintenance operating capability for Brigade Combat Team ground vehicles. | 2213 | 0 | 0 |
| Continued helicopter-based anticipatory data collection and data analysis. | 1242 | 0 | 0 |
| Continued investigation of new embedded diagnostics technologies and their application to Army systems. | 297 | 0 | 0 |
| Totals | 6608 | 0 | 0 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, N11103, Army Diagnostics Improvement Program | 6594 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22041 |

**C. Acquisition Strategy:** When the necessary expertise and capability were available within the Department of Defense, services required for the individual initiatives under this project were ordered from the government source; otherwise, existing or new commercial contracts were used. Equipment required for developmental projects was obtained by contract from the commercial supplier. Candidate equipment and maintenance methods were identified and evaluated through market research and government testing and evaluation.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 3996 | 1909 | 1-2Q | 0 | | 0 | | 0 | 5905 | 0 |
| b . Software Development/ Engineering | Various | Various | 5160 | 1863 | 1-2Q | 0 | | 0 | | 0 | 7023 | 0 |
| c . Government Engineering | | Various | 989 | 402 | 1-2Q | 0 | | 0 | | 0 | 1391 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10145 | 4174 | | 0 | | 0 | | 0 | 14319 | 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(R3)

**February 2004**

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 | 630 | 357 | 1-4Q | 0 | | 0 | | 0 | 987 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 630 | 357 | | 0 | | 0 | | 0 | 987 | 0 |
| Project Total Cost: | | | 13924 | 6608 | | 0 | | 0 | | 0 | 20532 | 0 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 18087 | 25789 | 26985 | 25860 | 24302 | 25427 | 22492 | Continuing | Continuing |
| C69 | REPRESENTATION OF SPACE CAPABILITIES | 0 | 0 | 496 | 496 | 495 | 495 | 495 | Continuing | Continuing |
| C73 | SYNTHETIC THEATER OF WAR | 1803 | 1331 | 1536 | 1045 | 1164 | 1069 | 1096 | Continuing | Continuing |
| C74 | DEVEL SIMULATION TECH | 182 | 3214 | 5382 | 4983 | 5043 | 5138 | 5220 | Continuing | Continuing |
| C77 | INTERACTIVE SIMULATION | 0 | 0 | 0 | 1136 | 228 | 1138 | 1117 | Continuing | Continuing |
| C78 | ONE SEMI-AUTOMATED FORCES (ONESAF) | 16102 | 21244 | 19571 | 18200 | 17372 | 17587 | 14564 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program element supports the Army's Advanced Simulation Program which enables operational readiness and supports the development of concepts and systems for Stryker and Future 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 C69, Army Space Modeling and Simulation, provides Modeling and Simulation (M&S) capabilities to represent an integrated operational space environment for Transformation Experimentation, Future Force design, and Army Service Component Command mission area responsibilities. Project C73, Synthetic Theater of War-Army (STOW-A), provides innovative applications of current 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 FY05, Army Space Modeling and Simulation, C69 project line will initiate the first phases of the Space Focused Area Collaborative Team (FACT)"roadmap/action plan." Activities include developing a set of algorithms for integration into evolving models for users such as the Army Warfare Simulation (AWARS), One Semi Automated Force (OneSAF), and Combat XXI.

The FY05 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 FY05, Developmental Simulation Technology, C74 Project line provides for Simulation-to-C4I interoperability (SIMCI) effort between the models and simulations and tactical C4I Systems. The FY05 Computer Generated Forces, C78 Project funding will continue development of the software to provide OneSAF initial operational capability functionality for Army evaluation and test.

This program line supports the Current, Stryker and Future transition paths of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 18128 | 26358 | 20567 |
| Current Budget (FY 2005 PB) | 18087 | 25789 | 26985 |
| Total Adjustments | -41 | -569 | 6418 |
| Congressional program reductions | | -2244 | |
| Congressional rescissions | | | |
| Congressional increases | | 1700 | |
| Reprogrammings | -41 | -25 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 6418 |

FY04 Congressional reduction to PE for $2.0M due to growth; Congressional plus-up to PE for $1.7M for Commander's Rock Drill

FY05 funding increases support Project C78, OneSAF.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C69** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C69 | REPRESENTATION OF SPACE CAPABILITIES | 0 | 0 | 496 | 496 | 495 | 495 | 495 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Provides Modeling and Simulation (M&S) capabilities to represent an integrated operational space environment for Transformation Experimentation, Future Force design, and Army Service Component Command (ASCC) mission area responsibilities. The Army lacks space representations in its current M&S suite and capabilities for analysis and training are limited. Current tools cannot address space-based Intelligence Surveillance and Reconnaissance (ISR), communications, early warning, blue force tracking, information operations, and weather forecasting. This shortfall in M&S prevents space-based capabilities from being fully integrated into evaluations of Future Force doctrine, concepts, requirements, and training. Additionally the current force is limited in developing concepts and conducting mission assessments. This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Planned activities include initiation of the first phases of the Space Focused Area Collaborative Team (FACT) "roadmap/action plan." The Army FACT is an Army-wide multi-discipline team comprised of M&S experts that research, identify, and coordinate simulation technology requirements. Planned activities include developing a set of algorithms for integration into evolving models for users such as the Army Warfare Simulation (AWARS), One Semi Automated Force (OneSAF), and Combat XXI. | 0 | 0 | 496 |
| Totals | 0 | 0 | 496 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C69**

| 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 . ASCC Space M&S Execution | CPAF/CPFF | Various, AL, FL, CA, KA, NM | 0 | 0 | | 0 | | 450 | | 0 | 450 | 0 |
| b . Govt Support | MIPR/Allotment | AL | 0 | 0 | | 0 | | 46 | | 0 | 46 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 496 | | 0 | 496 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C69**

| 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 | | 0 | | 496 | | 0 | 496 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C73** |

| COST (In Thousands) | FY 2003 Actual | 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 | 1803 | 1331 | 1536 | 1045 | 1164 | 1069 | 1096 | Continuing | Continuing |

**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 current and emerging technologies. This project develops innovative applications of current systems (live, virtual, constructive, C4ISR) to meet urgent needs across the domains (e.g., training shortfalls) until the next-generation systems are available. The FY05 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 Current/Future transition path of the Transformation Campaign Plan (TCP). DBST is part of the Army Constructive Training Federation (ACTF).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop integration software to link simulation with tactical command and control systems in support of Constructive Simulation. (Software Blocking) | 564 | 587 | 365 |
| Develop software to support Joint Venture and Joint Contingency Force Simulation - Simulation Integration. | 294 | 0 | 293 |
| Verification and validation of software integration to include DOD Information Technology Security Certification and Accreditation Process (DITSCAP). | 260 | 347 | 140 |
| Design, develop and install system linkages between live simulations through the instrumented operating systems at the Homestations. | 685 | 0 | 0 |
| Integration of Tactical Simulation Interface Unit in support of Army Constructive Training Federation | 0 | 361 | 738 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 36 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 1803 | 1331 | 1536 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OMA, 121014 | 1130 | 2889 | 2919 | 2733 | 2999 | 3385 | 3573 | Continuing | Continuing |

**C. Acquisition Strategy:** Development is accomplished through delivery orders to competitively selected contractors based on performance specifications via PEO STRI Ominbus Contract (STOC) and General Services Administration (GSA) contracts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 299 | 1-2Q | 256 | 1-2Q | Continue | 3434 | Continue |
| b . STOW-A/DBST Software Development | Various | Multiple | 6487 | 226 | 1Q | 213 | 1-2Q | 196 | 1-2Q | Continue | Continue | Continue |
| c . Architecture Development | C/CPIF | Multiple | 511 | 247 | 1Q | 180 | 1-2Q | 177 | 1-2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9601 | 749 | | 692 | | 629 | | 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 . Engr & Technical Support | Various | Multiple | 1744 | 321 | 1Q | 118 | 1Q | 207 | 1Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1744 | 321 | | 118 | | 207 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 250 | 1-3Q | 394 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1164 | 353 | | 250 | | 394 | | Continue | Continue | 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 | 380 | 1-4Q | 271 | 1-4Q | 306 | 1-4Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2825 | 380 | | 271 | | 306 | | Continue | Continue | Continue |
| Project Total Cost: | | | 15334 | 1803 | | 1331 | | 1536 | | Continue | Continue | Continue |

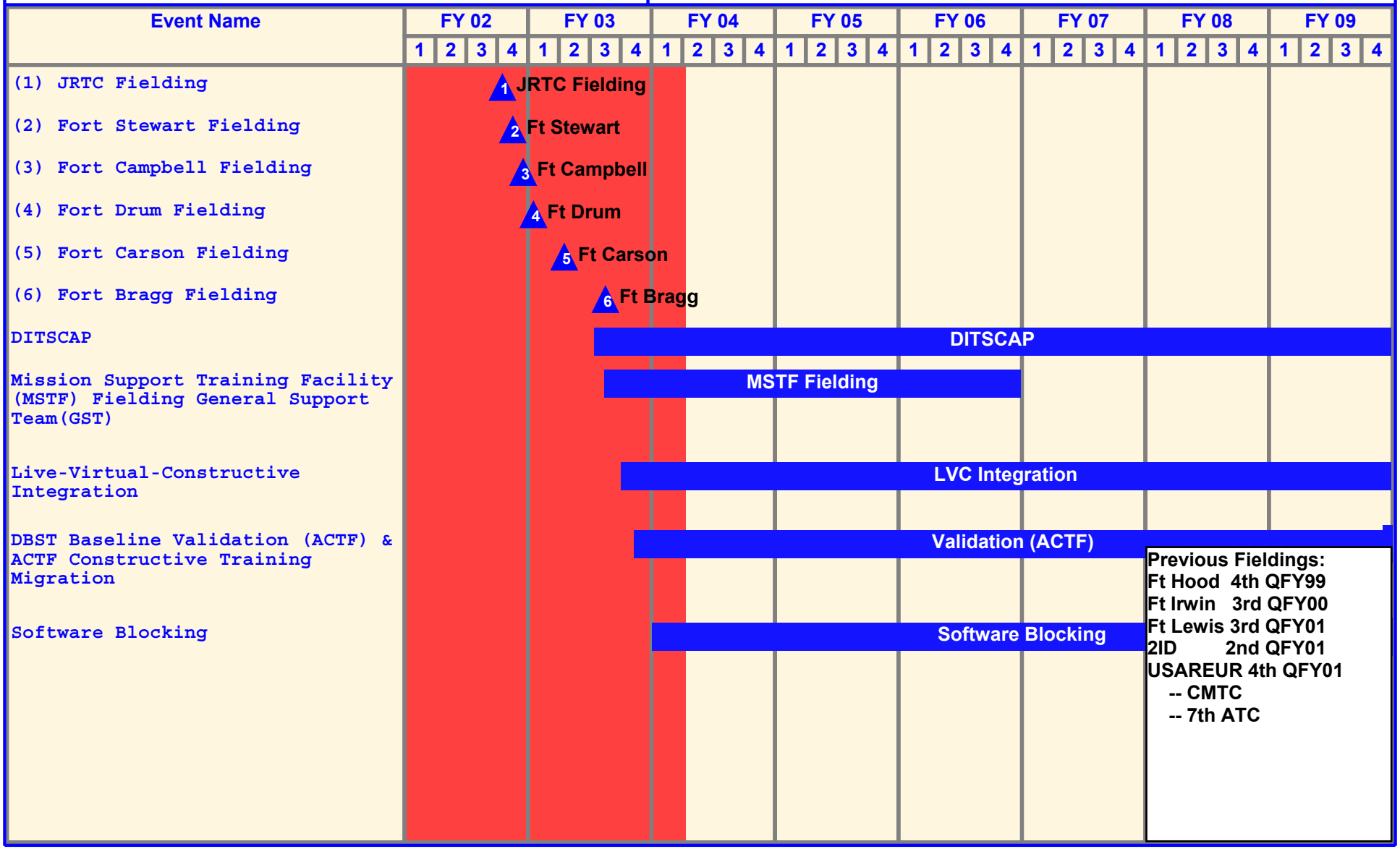
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C73**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C73** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Award Engineering & Technical Support | 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 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C74** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 182 | 3214 | 5382 | 4983 | 5043 | 5138 | 5220 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The funding in this project line will support the mission of Simulation to C4I Interoperability (SIMCI) in a components based architectures approach. This effort will yield improved interoperability between model and simulation (M&S) and C4I systems, as well as M&S and Army platforms. This provides Future Force capability while reducing the cost and burden associated with the production and maintenance of traditional interfaces and simulation/stimulation interfaces to tactical training devices. The mission is to enable Modeling and Simulation to support Future Combat System (FCS) development and Milestone C, Army Architectures Integration Cell (AAIC) 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. To achieve interoperability in the Army's System of Systems approach toward Army Transformation, components based architectures are critical in successfully integrating current and future M&S and tactical systems.

SIMCI's requirement is to tie interoperability and top level warfighter tasks to the Future 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 future Battle Command and the various applicable systems and platforms that are essential for Army Transformation.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Provide Army level synchronization of SIMCI-related and software blocking 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. Provided ABCS Software License management to all SIMCI related programs. Provided architectural support and effective liaison to PM Future Combat Systems (FCS), Defense Modeling and Simulation Office (DMSO), Defense Information Systems Agency (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). Develop and manage the Simulation-to-C4I interoperability (SIMCI) initiatives between the models and simulations (M&S) and tactical C4I Systems in a components based architectures approach. Develop C4I support plans to align the Army's operational, systems, and technical architectures to define and enable interoperable solutions between the M&S and the C4I community. | 182 | 267 | 328 |
| Manage the SIMCI efforts between the M&S and tactical C4I systems (3 WYs FY 04). Provide support of the SIMCI Overarching Integrated Product Team's (OIPT) 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; conduct experimentation and standardization 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 Army Battle Command and Army M&S components; further develop and increase user awareness of the Requirements Synchronization and Assessment Enterprise Tool Set (RS&A ETS); and align all initiatives with the Army's Software Blocking Policy. | 0 | 2862 | 5054 |
| Small Busineess Innovative Research/Small Business Technology Transfer Programs | 0 | 85 | 0 |
| Totals | 182 | 3214 | 5382 |

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

**C. Acquisition Strategy:** SIMCI OIPT resources are allocated to multiple organizations and contracts to procure and execute approved functions and projects to support the SIMCI and components based architecture alignment efforts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Monmouth, NJ | 230 | 0 | | 0 | 1-3Q | 660 | 1-3Q | Continue | Continue | 0 |
| b . C4I Interoperability - Digital Integration Lab (DIL) | T&M | COLSA Corporation, Huntsville, AL | 486 | 0 | | 45 | 1-3Q | 2716 | 1-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 716 | 0 | | 45 | | 3376 | | 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 . Facility Support for Digital Integration Lab (DIL) | In-House | PEO STRI (formerly STRICOM), Orlando, FL | 60 | 0 | | 0 | | 500 | | 0 | 560 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 60 | 0 | | 0 | | 500 | | 0 | 560 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C74**

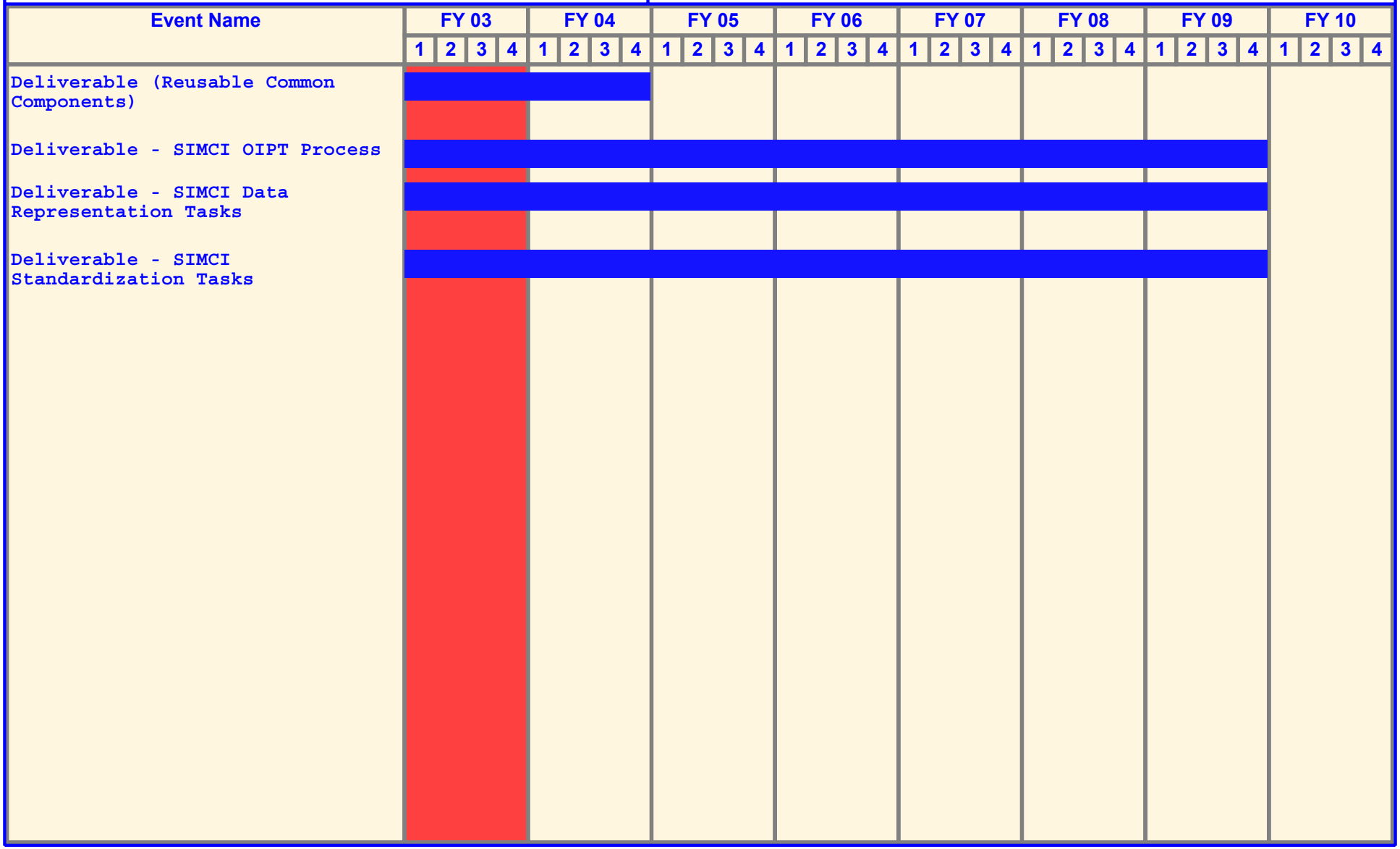
| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 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 | 182 | 1-4Q | 3169 | 1-4Q | 1506 | 1-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1790 | 182 | | 3169 | | 1506 | | Continue | Continue | 0 |
| Project Total Cost: | | | 2566 | 182 | | 3214 | | 5382 | | Continue | Continue | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604760A - Distributive Interactive Simulations (DIS) - Engin | C74 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C74** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Auto Generation of Selected Data for Army Constructive Training | | 4Q | | | | | |
| Enhanced Authoritative Database to Initialize Battle Command and M&S | | 4Q | | | | | |
| Requirements Synchronization Tool Population | | 4Q | | | | | |
| Coordinate Army Organization to Develop Simulation Services into FCS C4I | | | | | 4Q | | |
| Prototype Unit Order of Battle Data Interchange Format for Embedded Simulation | | | 4Q | | | | |
| Standardize Battle Management Language | | | | | | | 4Q |
| Standardize a Common Scenario Generation Methodology | | | | 4Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C78** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| C78 | ONE SEMI-AUTOMATED FORCES (ONESAF) | 16102 | 21244 | 19571 | 18200 | 17372 | 17587 | 14564 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project develops and delivers 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 higher fidelity Brigade and below SAF that will represent a full range of operations, systems and control processes in support of stand alone 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 current simulations currently used within the Army to support analytic and training simulation activities. This project is a component of the Army Constructive Training Federation (ACTF).

The FY05 program will continue the development of the software required to provide OneSAF initial operational capability for Army evaluation and test.

This project supports the Stryker and Future transition paths of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop functionality to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development. | 6907 | 6267 | 5420 |
| Develop life cycle applications and infrastructure enhancements for OneSAF IOC Version 1.0. | 990 | 994 | 962 |
| Develop functionality to represent behaviors, physical models, and communication models for OneSAF. | 7204 | 10422 | 11933 |
| Verification & Validation of newly developed and integrated software. | 1001 | 1369 | 1256 |
| Commander's Rock Drill | 0 | 1600 | 0 |
| SBIR/STTR | 0 | 592 | 0 |
| Totals | 16102 | 21244 | 19571 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OMA, 121014 | 2025 | 1900 | 2025 | 2387 | 2538 | 3062 | 6160 | Continuing | Continuing |

OMA funding provides for OneSAF life cycle software maintenance of existing software.

**C. Acquisition Strategy:** Development based on performance specifications via multiple Task Orders on competitively selected contracts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 11651 | 8233 | 1-3Q | 9978 | 1Q | 8409 | 1-2Q | Continue | 38271 | Continue |
| b . Integrated Environment Dev | CPFF | Advanced Systems Technology, Inc., Orlando FL | 3537 | 350 | 1-3Q | 1024 | 1Q | 1030 | 1-2Q | Continue | Continue | Continue |
| c . Synthetic Environment Dev | CPFF | Science Applications International Corp, Orlando, FL | 1960 | 1018 | 1-3Q | 1039 | 1-2Q | 1577 | 1-2Q | Continue | Continue | Continue |
| d . Knowledge Acquisition/Knowledge Engineering | CPFF | Aegis Technologies Group, Huntsville, AL | 2025 | 867 | 1-3Q | 927 | 1-2Q | 1273 | 1-2Q | Continue | Continue | Continue |
| e . OneSAF System Development | CPFF | Various | 3247 | 1076 | 1-3Q | 1062 | 1-2Q | 1734 | 1-2Q | Continue | Continue | Continue |
| f . Model Development | CPFF | Acusoft/Various | 6702 | 2001 | 1-2Q | 1764 | 1Q | 1807 | 1-2Q | Continue | Continue | Continue |
| g . Commander's Rock Drill | CPFF | To be determined | 0 | 0 | | 1600 | 3Q | 0 | | 0 | 1600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 29122 | 13545 | | 17394 | | 15830 | | Continue | Continue | Continue |

Remarks: Each contract award is a Delivery Order on a competitively selected contract.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1720 | 507 | 1Q | 550 | 1Q | 540 | 1-2Q | Continue | Continue | Continue |
| b . Domain Analysis | Various | Multiple | 1430 | 527 | 1Q | 630 | 1Q | 571 | 1-2Q | Continue | Continue | Continue |
| c . Architecture Engr & Tech Spt | C/CPFF | MITRE FFRDC | 1177 | 243 | 1Q | 256 | 1Q | 255 | 1-2Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 4327 | 1277 | | 1436 | | 1366 | | 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 . OneSAF integration, evaluation and test | C/CPAF | TBD | 407 | 240 | 2Q | 403 | 1-3Q | 487 | 1-3Q | Continue | Continue | Continue |
| b . OneSAF Verification, Validation & Accreditation | Various | Multiple | 389 | 347 | 1-3Q | 682 | 1-3Q | 698 | 1-3Q | Continue | Continue | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 796 | 587 | | 1085 | | 1185 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 693 | 1-4Q | 1329 | 1-4Q | 1190 | 1-4Q | Continue | 6065 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2853 | 693 | | 1329 | | 1190 | | Continue | 6065 | Continue |
| Project Total Cost: | | | 37098 | 16102 | | 21244 | | 19571 | | Continue | Continue | Continue |

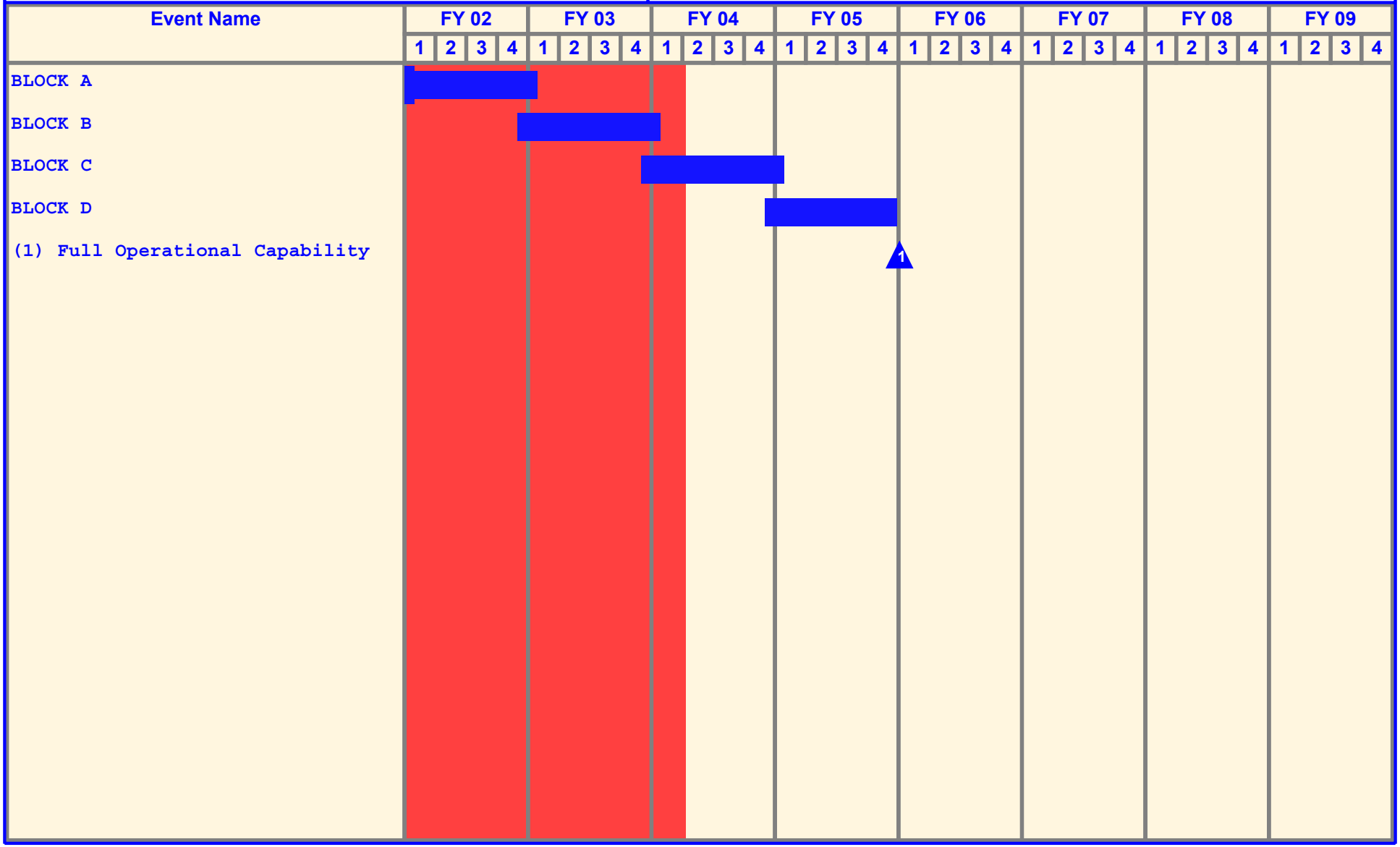
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604760A - Distributive Interactive Simulations (DIS) - Engin**

PROJECT
**C78**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604760A - Distributive Interactive Simulations (DIS) - Engin** | **C78** |

| **Schedule Detail** | 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 | 1Q |
| Deliver Block A | 1Q | | | | | | |
| Milestone B | 3Q | | | | | | |
| Deliver Block B | | 1Q | | | | | |
| Deliver Block C | | | 1Q | | | | |
| Deliver Block D | | | 4Q | | | | |
| OneSAF FOC (Version 1.0) | | | | 1Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 57229 | 26022 | 21821 | 0 | 0 | 0 | 0 | 0 | 221927 |
| 909 | TACTICAL SURVEILLANCE SYSTEMS-ENG DEV (TIARA) | 1769 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44176 |
| 957 | TACTICAL EXPLOITATION SYSTEM (TES)/DCGS-A (TIARA) | 55460 | 26022 | 21821 | 0 | 0 | 0 | 0 | 0 | 177751 |

**A. Mission Description and Budget Item Justification:** This program is designated as a DOD Space Program. It supports the engineering development/enhancement of the Tactical Exploitation System (TES), Division TES (DTES), TES Lite Variant (TES-L), and Distributed Common Ground System-Army (DCGS-A). TES, as an integral part of DCGS-A, will incorporate the standards and protocols dictated by the Common Imagery Ground/Surface System (CIG/SS) program. TES brings 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 a preprocessor for the All Source Analysis (ASAS), Common Ground Station (CGS), Guardrail Information Node (GRIFN), and the Digital Topographical Support System (DTSS). DCGS-A will incorporate the capabilities of TES, Guardrail/Information Node (GR/IFN), and Common Ground Station (CGS). TES, as an integral part of 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 Current to Future Force transition path of the Transformation Campaign Plan.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 57255 | 19695 | 16 |
| Current Budget (FY 2005 PB) | 57229 | 26022 | 21821 |
| Total Adjustments | -26 | 6327 | 21805 |
| Congressional program reductions | | -247 | |
| Congressional rescissions | | | |
| Congressional increases | | 6600 | |
| Reprogrammings | -26 | -26 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 21805 |

FY 2004 Congressional increase of $3.6M (D957) for TES Forward (-) to I Corps.
FY 2004 Congressional increase of $3M (D909) for the Broadband Intelligence Training System.
FY 2005 Field TES Forward (-) variants to I Corps and EUSA ($21M of FY05 funds).
FY 2005 RDTE Funding for TES Lite ($1M of FY 2005 funds) preprocurement refinement.

# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **957** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 55460 | 26022 | 21821 | 0 | 0 | 0 | 0 | 0 | 177751 |

**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 System - Army (DCGS-A) capability. TES brings a common inter-service, multi-discipline ISR 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 a 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 will incorporate the capabilities of TES, Guardrail/Information Node (GR/IFN), and Common Ground Station (CGS). TES, as an integral part of DCGS-A will continue to incorporate emerging theater and national intelligence, surveillance, and reconnaissance (ISR) capabilities. 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. Funding for technical evolution and operational currency for TES ends in FY 2004. Other than funds to build system in FY 2005, RDTE funding will be used to keep pace with sensor upgrades and new production sensors and platforms.

Increase in FY05 is intended to devise a TES Forward (MINUS) derivation of the TES baseline for two gaining commands. These two systems are required to replace defielded TENCAP Equipment (AEPDS) which occurs NLT 1st QTR FY05. An additional $1M of RDTE provide to do engineering and development work for TES Lite prototype which will be the technical foundation for procuring 21 TES-Lites with SSN BZ7317 Procurement Funds (FY05). This project supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **957** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| TES Forward and MAIN Interop and Upgrade Spirals. Funding transitioned to PE 0305208 Project 956 in FY04 and out. | 11250 | 0 | 0 |
| Objective Architecture Software Spirals - Development Engineering Builds. | 6749 | 0 | 0 |
| Field Motivated Fixes, Baseline Builds, and Configuration Control Board. Starting in FY 04 planned funding supplemented with PE 0305208, Project 956. However, that funding source also prematurely extinguished for TES. | 5071 | 5495 | 310 |
| DTES Production and Interop and Upgrade Spirals. Funding transitioned to PE 0305208 Project 956 in FY04 and out. | 10111 | 0 | 0 |
| Advance Planning and Engineering for Future Requirements and Studies to include DCGS transformation, Future Combat Systems (FCS), and National Imagery projects. | 4311 | 2327 | 0 |
| Continued TES/DCGS-A development through Army Topographic Engineering Center (TEC) and FFRDC (Aerospace). | 3346 | 3465 | 0 |
| System Engineering and Technical Assistance, IPT Participation across programs and Services, Roadmaps, and DCGS Transformation Plans. | 7053 | 6234 | 0 |
| Ensures Interoperability across the Services and other programs for evolving Sensors, data links, platform integration, COMMS, and Multilevel Security Engineering Efforts. | 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 D956. | 439 | 0 | 0 |
| TES Forward (MINUS) for Korea. (EUSA) | 0 | 0 | 10500 |
| TES Forward (MINUS) for I-Corps. | 0 | 3600 | 10500 |
| TES Lite development, integration and evaluation. Starts engineering effort that produces baseline on which SSN BZ7317 Procurement for FY05-07 occurs. | 0 | 0 | 511 |
| Broadband Intelligence Training System | 0 | 3000 | 0 |
| Totals | 55460 | 26022 | 21821 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| PE 0604766A TENCAP Project 909 (TIARA) | 1769 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1769 |
| PE 0305208A Project 956 (JMIP) | 44805 | 13654 | 9751 | 10136 | 10643 | 11104 | 11603 | Continuing | Continuing |
| BZ7316 CIG/SS (JMIP) | 15803 | 2667 | 9575 | 9946 | 24632 | 33579 | 34287 | Continuing | Continuing |
| BZ7317 Tactical Surveillance System (TIARA) | 17100 | 0 | 14094 | 0 | 0 | 0 | 0 | 0 | 65328 |

**C. Acquisition Strategy:** As pioneers in streamlined acquisition, ASPO's success in delivering TENCAP 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 (less time for first Unit of Issue (FUI) and subsequent productions). 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(R3)

**February 2004**

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 DTES | SS/CPAF | Northrop Grumman, Linthicum, MD | 7182 | 10111 | 1Q | 0 | | 0 | | 0 | 17293 | 13208 |
| b . Software upgrades and enhancements of TES baseline. | SS/CPAF | Northrop Grumman, Linthicum, MD | 12192 | 11820 | 1Q | 6469 | 1Q | 21821 | 1Q | 0 | 52302 | 100047 |
| c . SAIP Prototype | SS/CPAF | Northrop Grumman, Linthicum, MD | 6860 | 439 | 1Q | 0 | | 0 | | 0 | 7299 | 7520 |
| d . TES joint interoperability with current and future sensors. | SS/CPAF | Northrop Grumman, Linthicum, MD | 11850 | 7130 | 1Q | 1901 | 1Q | 0 | | 0 | 20881 | 20850 |
| e . TES Fwd and Main Sustainability/Interoperability Retrofits | SS/CPAF | Northrop Grumman, Linthicum, MD | 0 | 11250 | 1Q | 0 | | 0 | | 0 | 11250 | 0 |
| f . Advance Planning, System Engineering, Future Requirements, Eng Transformation Plans | SS/CPAF | Northrop Grumman, Linthicum, MD | 0 | 11364 | 1Q | 7587 | 1Q | 0 | | 0 | 18951 | 0 |
| g . TES Forword (MINUS) I Corps lead items. | | | 0 | 0 | 2-4Q | 3600 | 2-4Q | 0 | | 0 | 3600 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 38084 | 52114 | | 19557 | | 21821 | | 0 | 131576 | 141625 |

Remarks: *

| 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 | 6027 | Continue |
| b . Contractor | C/FFP | Northrop Grumman Info Tech/TASC | 700 | 350 | 2Q | 350 | 2Q | 0 | | Continue | 1400 | Continue |
| c . FFRDC | OGA | Aerospace Corp, Chantilly, VA | 1255 | 1255 | 1Q | 1370 | 1Q | 0 | | Continue | Continue | Continue |
| d . Broadband Intelligence Training System | | | 0 | 0 | 2Q | 3000 | 2Q | 0 | | 0 | 3000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4496 | 3346 | | 6465 | | 0 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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: | | | 42580 | 55460 | | 26022 | | 21821 | | Continue | Continue | Continue |

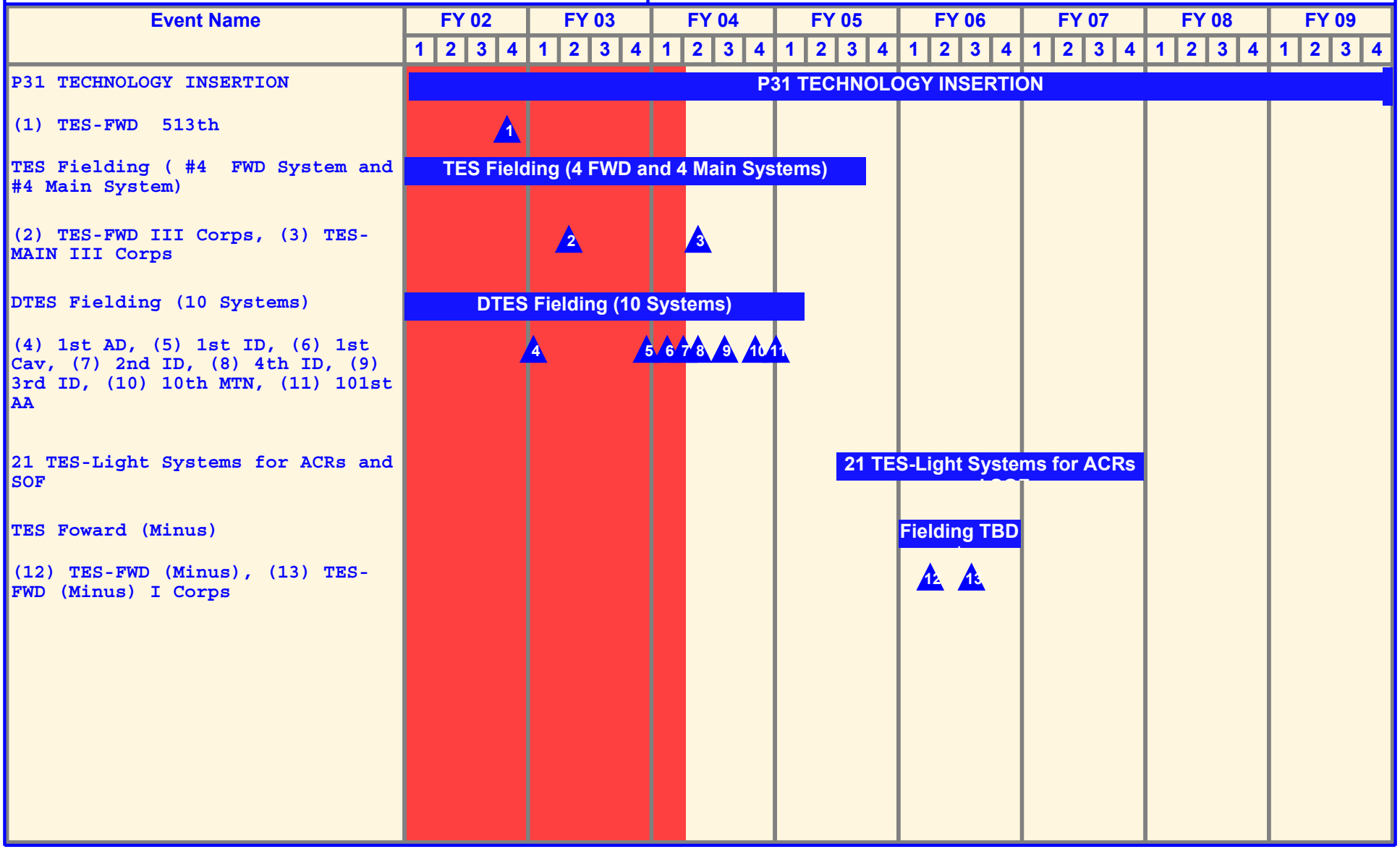
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604766A - Tactical Exploitation System/DCGS (TIARA)**

PROJECT
**957**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604766A - Tactical Exploitation System/DCGS (TIARA)** | **957** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| 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 | | | | | |
| Complete TES FWD (-) #1 | | | | 1Q | | | |
| Complete TES FWD (-) #2 | | | | 4Q | | | |
| Complete TES Lite Prototype | | | 3Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 55922 | 9897 | 21 | 23 | 0 | 0 | 0 | 0 | 236179 |
| 687 | BAT P3I | 0 | 0 | 21 | 23 | 0 | 0 | 0 | 0 | 170360 |
| MD6 | ARMY TACTICAL MISSILE SYSTEM - PENETRATOR | 0 | 6928 | 0 | 0 | 0 | 0 | 0 | 0 | 6928 |
| P01 | MULTI - MODE SEEKER DEVELOPMENT AND TEST | 55922 | 2969 | 0 | 0 | 0 | 0 | 0 | 0 | 58891 |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) provides funding for the ATACMS Penetrator (ATACMS-P) program, Multi-Mode Seeker (MMS) program, and the Viper Strike effort which is funded in project P01 with the MMS.

The ATACMS-P is a standoff ballistic-missile-delivered penetrator weapon for use against fixed hard and deeply buried strategic and tactical targets. This system is employed from the M270A1 and High Mobility Artillery Rocket System (HIMARS). The ATACMS-P will complement current ATACMS Family of Munitions (AFOM) 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. FY04 funds will complete the ATACMS-P ACTD effort. The follow on effort for ATACMS-P was terminated by the Army in the FY05 PB to fund Transformation and other higher priority Army requirements.

The MMS program will develop, assemble and test a MMS. This seeker will search, detect, acquire, and track moving armored vehicles, Muliple Rocket Launchers/Transporter Erector Launchers (MRLs/TELs), and other lightly armored vehicles. Funding will also support the software development and simulation of the MMS for stationary targets. The seeker, which uses millimeter wave and imaging infrared, will permit modern weapon systems to be operational in near all-weather and countermeasured conditions. The MMS program was developed in parallel with the Viper Strike/Hunter effort. The MMS program strategy shared development of common technologies needed for both programs.

The Viper Stike effort provides for weaponization of the Unmanned Aerial Vehicle (UAV). This is accomplished by mounting a Semi-Active Laser (SAL) Seeker on a submunition with integrated Global Positioning System (GPS) and dispensing from the Hunter or Fire Scout UAV. This system provides the ability to attack targets ranging from armored tracks (tanks, Armored Personnel Carriers (APCs)), TELs/MRLs, and Scuds to thin-skinned "technical" (pickup trucks and cars) wheeled vehicles, crew served weapons and lightly constructed buildings. Viper Strike is well suited for situations where precision (near-zero Circular Error Probable (CEP)) and minimum collateral damage are important. Viper Strike deployed from the Hunter UAV and Fire Scout UAV will meet the critical weaponization needs of the Future Combat Systems Class IV interim and objective UAV system.

These systems support the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

Note: Funding reflected in FY05 and FY06 will be realigned to the proper Program Element for execution.

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 42942 | 55075 | 9836 |
| Current Budget (FY 2005 PB) | 55922 | 9897 | 21 |
| Total Adjustments | 12980 | -45178 | -9815 |
| Congressional program reductions | | -45168 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 12980 | -10 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -9815 |

FY04 decrease due to Congressional reduction ($-45.075 million) and undistributed Congressional reductions of ($-.093 million).
The ATACMS-Penetrator program was terminated by the Army in the FY05 PB; therefore, FY05 funds were realigned to support higher priority requirements.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **MD6** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 6928 | 0 | 0 | 0 | 0 | 0 | 0 | 6928 |

**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. FY04 funds will complete the ATACMS-P ACTD effort. The follow on effort for ATACMS-P was terminated by the Army in the FY05 PB in order to fund Transformation and higher Army priority requirements. The ATACMS-P supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Complete the Army integration of the Earth Penetrator Warhead (EPW) and final assembly of flight test assets and six residual units. | 0 | 5359 | 0 |
| Complete Qualification Test and Safety Certification of the EPW fuze. | 0 | 809 | 0 |
| Support flight tests at White Sands Missile Range (WSMR). | 0 | 566 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 194 | 0 |
| Totals | 0 | 6928 | 0 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Navy Penetrator | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** The Army Tactical Missile System-Penetrator (ATACMS-P) strategy is to complete the Advance Concept Technology Demonstration (ACTD). There will be a series of flight tests to evaluate the system. The ACTD will be completed with the delivery of six residual assets to forces in Korea.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . LMMFCS-Dallas, | Sole Source (SS) / Cost Plus Incentive Fee (CPIF) | LMMFCS, TX | 0 | 0 | | 3001 | 2Q | 0 | | 0 | 3001 | 0 |
| b . Strategic Systems Programs (NAVY) | N/A | Washington, DC | 0 | 0 | | 3927 | 2Q | 0 | | 0 | 3927 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 6928 | | 0 | | 0 | 6928 | 0 |

Remarks: Lockheed Martin Missiles and Fire Control Systems (LMMFCS)

| 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(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 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 | | 6928 | | 0 | | 0 | 6928 | 0 |

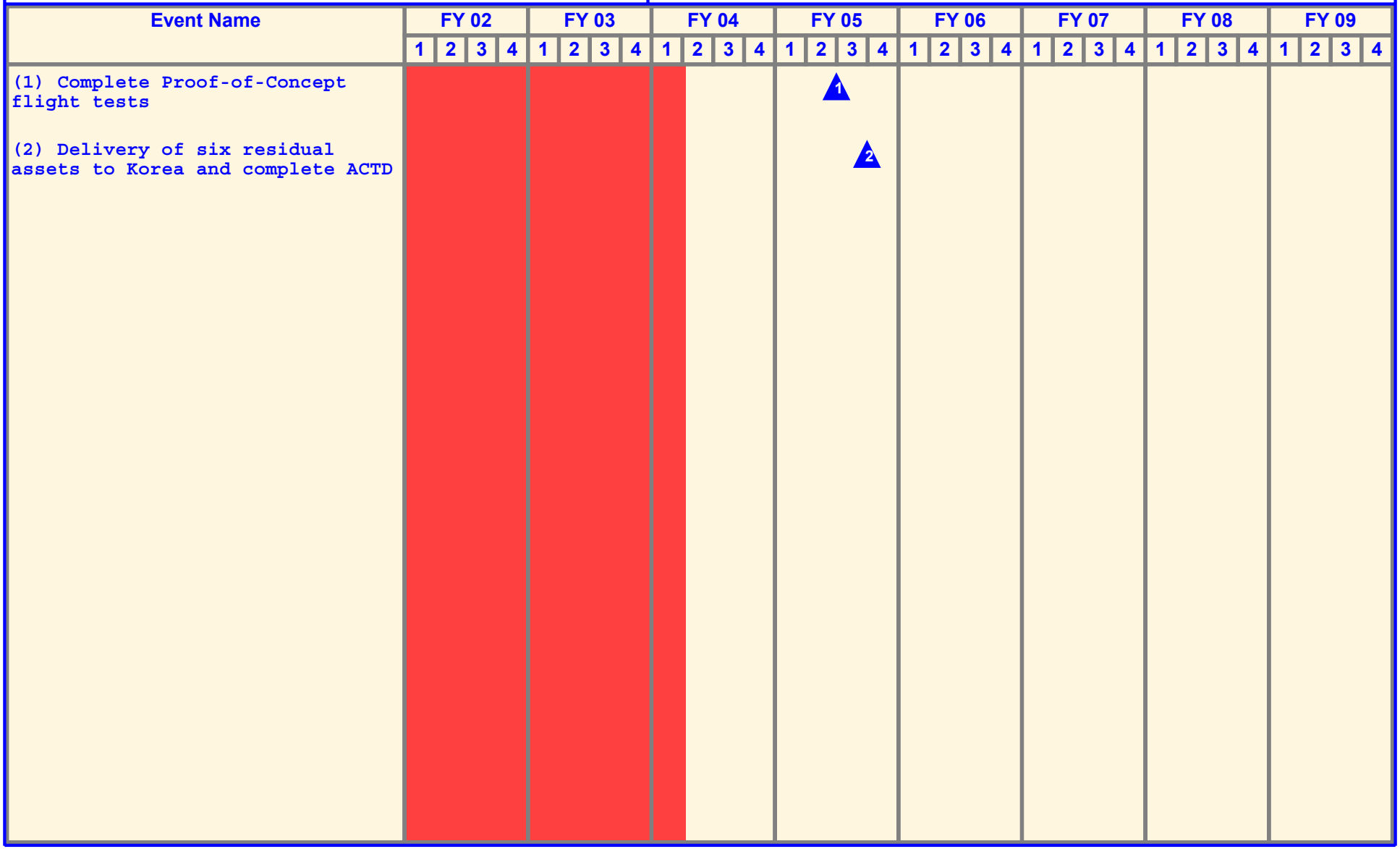
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**MD6**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **MD6** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct Proof-of-Concept flight tests | | 2-4Q | 1-2Q | | | | |
| Complete Advanced Technology Demonstration (ACTD) | | 1-4Q | 1-3Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **P01** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| P01 | MULTI - MODE SEEKER DEVELOPMENT AND TEST | 55922 | 2969 | 0 | 0 | 0 | 0 | 0 | 0 | 58891 |

**A. Mission Description and Budget Item Justification:** The Multi-Mode Seeker (MMS) program completes the development, assembly, and test of a MMS. This seeker will search, detect, acquire, and track moving armored vehicles, Muliple Rocket Launchers/Transporter Erector Launchers (MRLs/TELs), and other lightly armored vehicles. Funding will also support the software development and simulation of the MMS for stationary targets. The seeker, which uses millimeter wave and imaging infrared, will permit modern weapon systems to be operational in near all-weather and countermeasured conditions. The MMS program was developed in parallel with the Viper Strike/Hunter effort. The MMS program strategy shared development of common technologies needed for both programs.

This Program Element (PE) provides funding for the Viper Strike effort and related Hunter Unmanned Aerial Vehicle (UAV) integration items. The funds in FY04 enable Global Positioning System (GPS) integration and Fire Scout UAV integration and demonstration. The Viper Strike effort has completed demonstration of the Proof-of-Principle for a Semi-Active Laser Seeker mounted on a submunition with integrated GPS and dispensing from the Hunter tactical UAV which provides the ability to attack targets ranging from armored tracks (tanks, Armored Personnel Carriers (APCs)), Mulitple Rocket Launchers/ Transporter Erector Launchers (MRLs/TELs), and Scuds to thin-skinned "technical" (pickup trucks and cars) wheeled vehicles, and crew-served weapons and lightly constructed buildings. Viper Strike is particularly well suited for situations where precision (near-zero Circular Error Probable (CEP)) and minimum collateral damage are important. Viper Strike deployed from the Hunter UAV and Fire Scout UAV will meet critical weaponization needs of the Future Combat System Class IV Interim and Objective UAV systems.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Integrate Global Positioning System (GPS) into the munition Central Electronics Unit | 0 | 1920 | 0 |
| Fire Scout UAV Demonstration | 0 | 966 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 83 | 0 |
| Multi-Mode Seeker (MMS) Integration and Demonstration with Hunter UAV | 11696 | 0 | 0 |
| MMS GPS and stationary target software development. | 9983 | 0 | 0 |
| MMS hardware obsolescence. | 1038 | 0 | 0 |
| MMS moving target development and test. | 5486 | 0 | 0 |
| Developed Hardware in the Loop Facility (HWIL) for MMS. | 1551 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Developed Digital Simulation for MMS. | 2013 | 0 | 0 |
| Produced munitions to support MMS flight tests. | 2156 | 0 | 0 |
| Integrated Semi-Active Laser Seeker (SAL) on munition for Viper Strike. | 10986 | 0 | 0 |
| Developed HWIL for Viper Strike. | 469 | 0 | 0 |
| Conducted 2 demonstrations for Viper Strike system testing against multiple target sets designated by Hunters and Lightweight Laser Designators and Rangefinders (LLDRs) | 5013 | 0 | 0 |
| Conducted demonstration of submunition from Hunter UAV for Viper Strike. | 5531 | 0 | 0 |
| Totals | 55922 | 2969 | 0 |

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

**C. Acquisition Strategy:** The Multi-Mode Seeker (MMS) program completes the development, assembly, and test of a MMS. This seeker will search, detect, acquire and track moving MRLs/TELs, armored and lightly armored vehicles. Development and simulations will be performed against stationary targets. The seeker, which uses millimeter wave and imaging infrared, will permit modern weapon systems to be operational in near all-weather and countermeasured conditions. The Viper Strike effort completes the demonstration of Proof-of-Principle program for a Semi-Active Laser Seeker mounted on a submunition with integrated Global Positioning System (GPS) dispensed from the Fire Scout tactical Unmanned Aerial Vehicle (UAV).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**P01**

| 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 . Northrop Grumman (Multi-Mode Seeker) | Sole Source(SS)/ Cost Plus Incentive Fee (CPIF) | Huntsville, AL | 0 | 25849 | 2-4Q | 0 | | 0 | | 0 | 25849 | 0 |
| b . Northrop Grumman (Viper Strike) | SS/CPIF | Huntsville, AL | 0 | 15267 | 2-4Q | 2643 | 2-3Q | 0 | | 0 | 17910 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 41116 | | 2643 | | 0 | | 0 | 43759 | 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 . SPARTA, CAS (SETA Spt) | Competitive (C)/Cost Plus Fixed Fee (CPFF) | Hutsville, AL | 0 | 912 | 2-3Q | 0 | | 0 | | 0 | 912 | 0 |
| b . Miscellaneous (SETA Spt) | C/CPFF | Huntsville, AL | 0 | 463 | 2Q | 193 | 2Q | 0 | | 0 | 656 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**P01**

| 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: | | | 0 | 1375 | | 193 | | 0 | | 0 | 1568 | 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 . Army Technical Test Center (ATTC)-Multi-Mode Seeker (MMS) | NA | Fort Rucker, AL | 0 | 457 | 4Q | 0 | | 0 | | 0 | 457 | 0 |
| b . White Sands Missile Range (WSMR)-MMS | N/A | WSMR, NM | 0 | 5006 | 2Q | 0 | | 0 | | 0 | 5006 | 0 |
| c . WSMR (Viper Strike) | N/A | WSMR, NM | 0 | 4747 | 2Q | 0 | | 0 | | 0 | 4747 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 10210 | | 0 | | 0 | | 0 | 10210 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**P01**

| 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 | Project Office, Redstone Arsenal, AL | 0 | 1868 | 1-4Q | 133 | 1-4Q | 0 | | 0 | 2001 | 0 |
| b . Research Development Engineering Center (RDEC) | N/A | Redstone Arsenal, AL | 0 | 1353 | 1-4Q | 0 | | 0 | | 0 | 1353 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 3221 | | 133 | | 0 | | 0 | 3354 | 0 |
| Project Total Cost: | | | 0 | 55922 | | 2969 | | 0 | | 0 | 58891 | 0 |

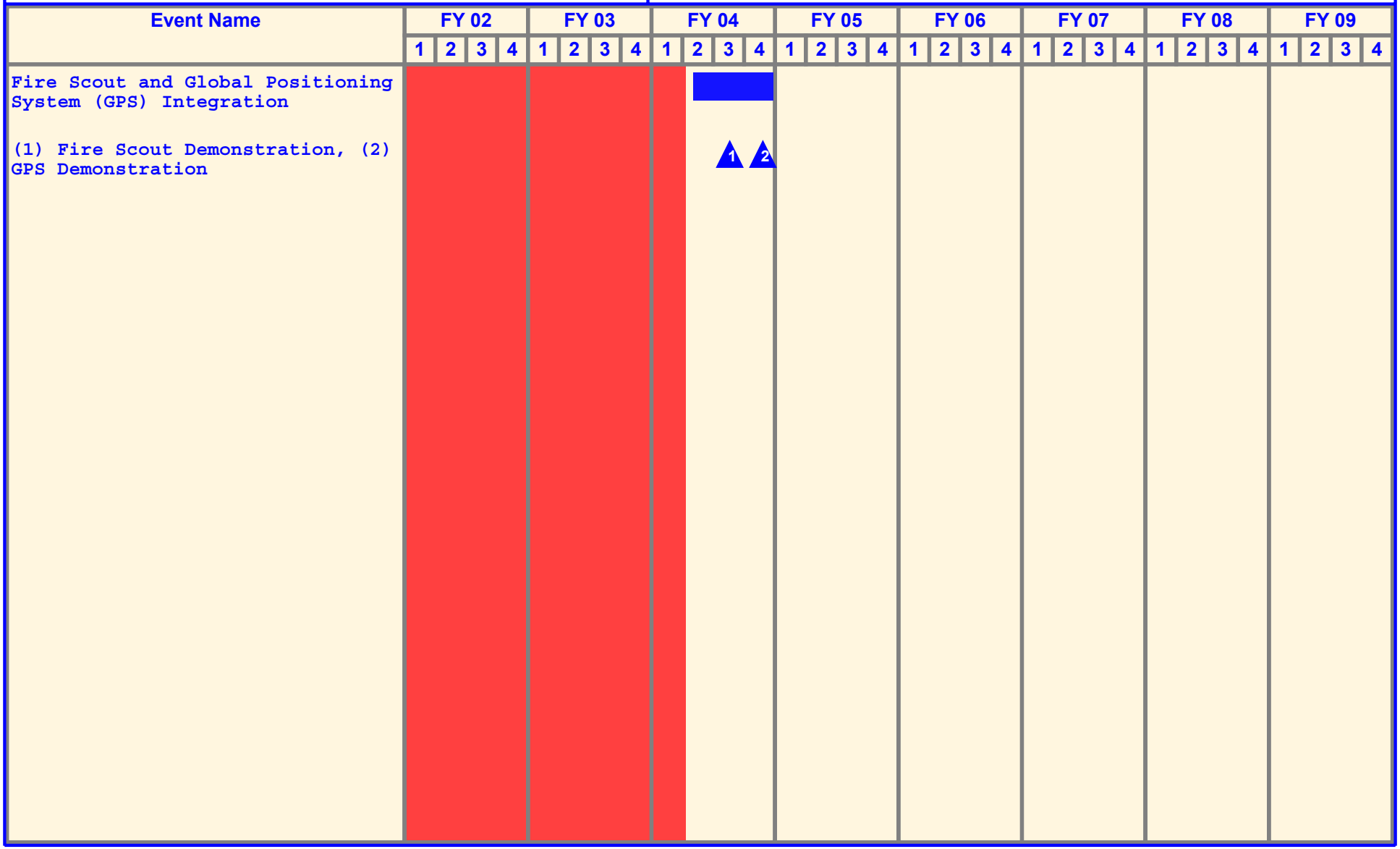
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604768A - Brilliant Anti-Armor Submunition (BAT)**

PROJECT
**P01**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604768A - Brilliant Anti-Armor Submunition (BAT)** | **P01** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Fire Scout Integration and Demonstration | | 2-4Q | | | | | |
| Global Positioning System (GPS) Integration and Test | | 2-4Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 4509 | 4656 | 0 | 0 | 0 | 0 | 0 | 0 | 44783 |

**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.

These system modifications support both the Current/Stryker Brigade Combat Team (SBCT) and the Future Force transition path of the Transformation Campaign Plan (TCP).

No funding in FY 05.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Complete enhancement of existing CGS applications to integrate and enhance CGS collaboration/data sharing with other tactical processing nodes across battlefield echelons to support migration to DCGS-A architecture. | 1040 | 1525 | 0 |
| Complete Modeling & Simulation (M&S) capabilities to support unit and staff training via network environment. | 1569 | 1881 | 0 |
| Engineering support to migrate CGS functionality into Distributed Common Ground System-Army (DCGS-A) and develop documentation for DCGS-A architecture. | 1300 | 900 | 0 |
| Complete Coalition Aerial Surveillance and Reconnaissance (CAESAR) Support. | 600 | 350 | 0 |
| Totals | 4509 | 4656 | 0 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 4511 | 4705 | 0 |
| Current Budget (FY 2005 PB) | 4509 | 4656 | 0 |
| Total Adjustments | -2 | -49 | 0 |
| Congressional program reductions | | -44 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -2 | -5 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | |

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| BA1080 Joint STARS (TIARA) | 9587 | 8200 | 0 | 0 | 0 | 0 | 0 | 0 | 38943 |
| BS9724 Joint STARS Spares | 3287 | 293 | 0 | 0 | 0 | 0 | 0 | 0 | 7429 |
| 1001018A NATO AGS C35 | 503 | 498 | 614 | 603 | 688 | 700 | 728 | Continue | Continue |
| 0305208A Distributed Common Ground System (JMIP) | 44805 | 37266 | 44183 | 88631 | 110819 | 115631 | 120774 | Continue | Continue |
| BZ7316 Distributed Common Ground System (JMIP) | 15803 | 2667 | 9575 | 9946 | 24632 | 33579 | 34287 | Continue | Continue |
| BZ7317 TES (TIARA) | 17576 | 0 | 0 | 0 | 0 | 0 | 0 | Continue | Continue |
| AZ2000 GUARDRAIL MODS (TIARA) (DCGS-A GRIFN Only) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5000 |
| PE 0603750D CAESAR ACTD (OSD AS&C) | 800 | 400 | 0 | 0 | 0 | 0 | 0 | 0 | 2400 |
| PE 0603923D8Z CAESAR ACTD (OSD AT&L-CAPE) | 700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3400 |
| PE 63789F/27581F Air Force AFRL/SAFAQID | 370 | 300 | 3610 | 0 | 0 | 0 | 0 | 0 | 6220 |
| PE 65126J JSTAMDO | 400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 900 |

**D. Acquisition Strategy:** The baseline CGS capability is being enhanced via block upgrade approach to support other sensors and integrate CGS collaboration/data sharing with other tactical processing nodes across battlefield echelons to support migration to DCGS-A architecture. The enhancements were awarded sole source to General Dynamics.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1615 | 2Q | 0 | | 0 | 3971 | 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/DCGS-A Migration | FFP | General Dynamics, Scottsdale, AZ | 7000 | 0 | | 900 | 2Q | 0 | | 0 | 7900 | 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 | 350 | 2Q | 0 | | 0 | 2110 | 2010 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1500 | 2Q | 0 | | 0 | 7017 | 8966 |
| | | | | | | | | | | | | |
| Subtotal: | | | 55108 | 1730 | | 4365 | | 0 | | 0 | 61203 | 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 | 0 | | 0 | | 0 | 4215 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4887 | 1905 | | 140 | | 0 | | 0 | 6932 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604770A - Joint Surveillance/Target Attack Radar System**

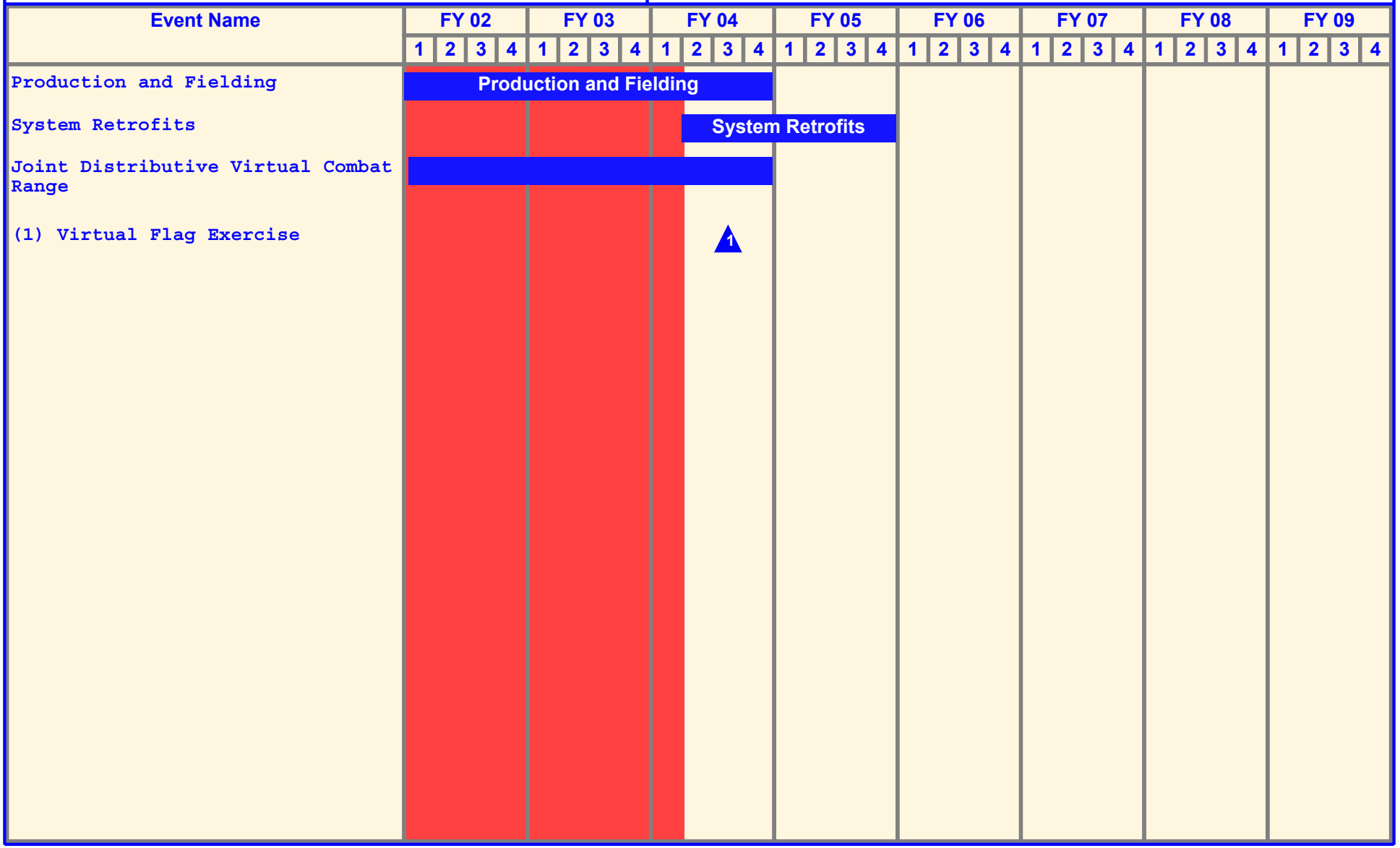
PROJECT
**202**

| 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 | 474 | 1Q | 151 | 1Q | 0 | | 0 | 3914 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3289 | 474 | | 151 | | 0 | | 0 | 3914 | 0 |
| Project Total Cost: | | | 80505 | 4509 | | 4656 | | 0 | | 0 | 89670 | 75434 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604770A - Joint Surveillance/Target Attack Radar System | 202 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604770A - Joint Surveillance/Target Attack Radar System** | **202** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Participate in Desert Pivot/Virtual Flag 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 | | | | | | | |
| Migration into DCGS-A | | 1-4Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604778A - Positioning Systems Development (SPACE)** | **168** |

| COST (In Thousands) | FY 2003 Actual | 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 | 1558 | 2048 | 2233 | 0 | 0 | 0 | 0 | 8166 |

**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 Joint Program Office develops GPS User Equipment (PE 35164F) with Army management and oversight. 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 identify/support the means to increase the functionality and performance of GPS receivers.

The Defense Advanced GPS Receiver has been designated a Horizontal Technology Integration (HTI) program and provides essential capabilities to numerous weapon systems and platforms.

This system supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

FY05 funding provides for the continued development, demonstration and transition of Urban Situational Awareness elements. These elements will allow the GPS Receivers to provide more secure and more reliable position and navigation data.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Leverage, demonstrate, and transition of Urban Situational Awareness improvements and solutions into GPS receivers. | 0 | 1558 | 2048 |
| Totals | 0 | 1558 | 2048 |

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 1574 | 2065 |
| Current Budget (FY 2005 PB) | 0 | 1558 | 2048 |
| Total Adjustments | 0 | -16 | -17 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | -16 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -17 |

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| K47800, Other Procurement, Army, NAVSTAR GPS | 27037 | 45951 | 40067 | 42644 | 38131 | 25527 | 28331 | 264000 | 511688 |

**D. Acquisition Strategy:** Leverage commercial technology investments and Research, Development, and Engineering Center (RDEC) initiatives that will improve and enhance functionality of GPS receivers 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 contractor of the affected GPS receiver to transition software data into the desired platform. The DAGR contract was awarded in 1QFY04 on a competitive basis.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 309 | 1Q | 333 | 1Q | 577 | 1219 | 0 |
| b . Integrate P-Code algorithms into GPS receiver | TBS | TBS | 0 | 0 | | 874 | 2Q | 990 | 2Q | 677 | 2541 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1183 | | 1323 | | 1254 | 3760 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604778A - Positioning Systems Development (SPACE)**

PROJECT
**168**

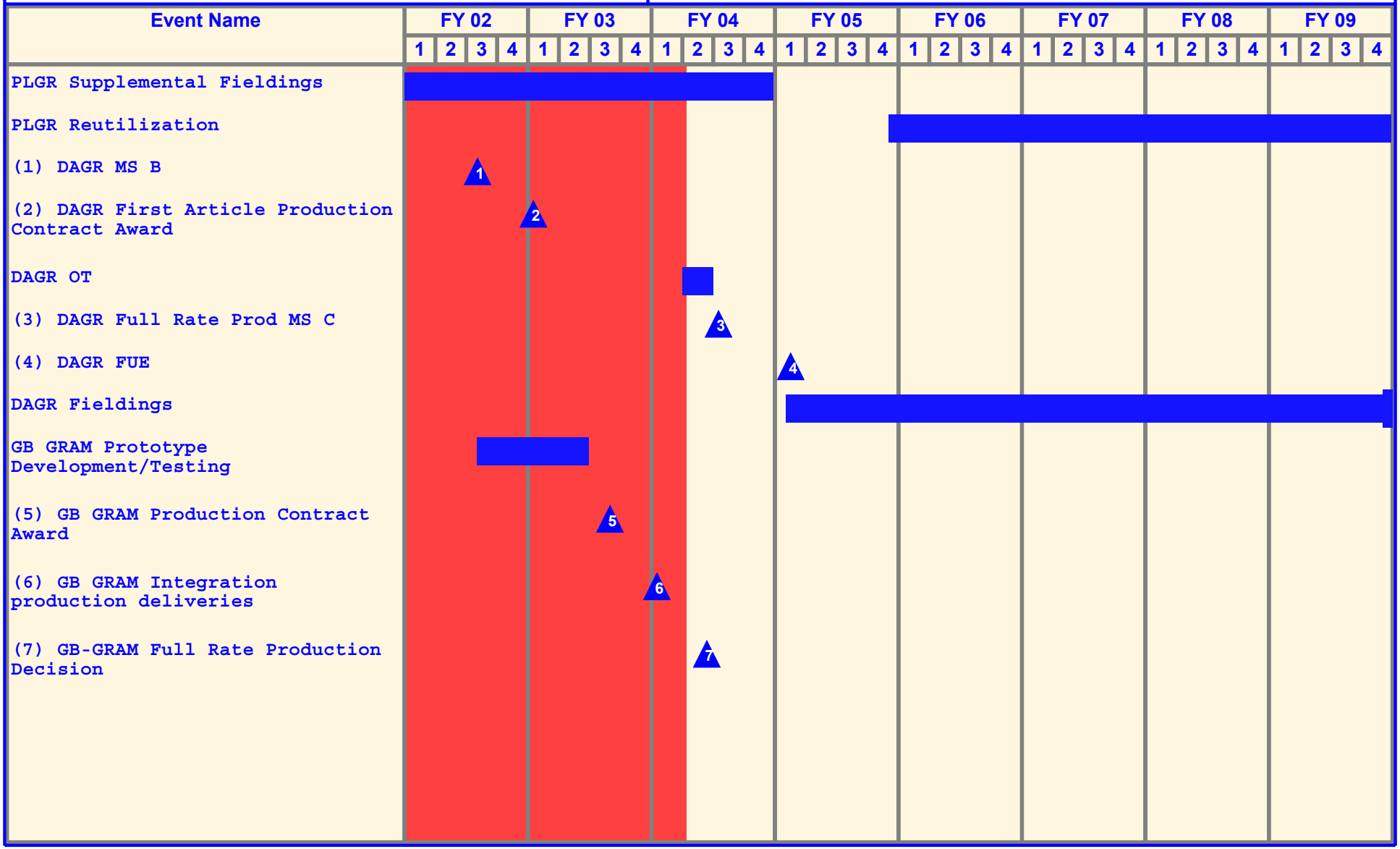
| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Test/integrate new capabilities | MIPR | RDEC, Fort Monmouth, NJ | 0 | 0 | | 247 | 2Q | 557 | 2-3Q | 800 | 1604 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 247 | | 557 | | 800 | 1604 | 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 Support | | PM GPS | 0 | 0 | | 128 | 1-4Q | 168 | 1-4Q | 179 | 475 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 128 | | 168 | | 179 | 475 | 0 |
| Project Total Cost: | | | 0 | 0 | | 1558 | | 2048 | | 2233 | 5839 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604778A - Positioning Systems Development (SPACE) | 168 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604778A - Positioning Systems Development (SPACE)** | **168** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| DAGR Milestone C | | 2-3Q | | | | | |
| DAGR OT/DT | | 2-3Q | | | | | |
| First Unit Equipped DAGR | | 4Q | | | | | |
| GB-GRAM Production Contract Award | 3Q | | | | | | |
| GB-GRAM Integration Production Deliveries | | 1Q | | | | | |
| GB-GRAM MS C | | 2Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 8162 | 3956 | 23849 | 33674 | 40153 | 29399 | 18892 | Continuing | Continuing |
| 571 | CLOSE CBT TACT TRAINER | 4761 | 3956 | 5584 | 5571 | 5385 | 34 | 43 | Continuing | Continuing |
| 582 | SYNTHETIC ENVIR CORE | 3401 | 0 | 10221 | 20673 | 26593 | 26890 | 18849 | Continuing | Continuing |
| 585 | AVIATION COMBINED ARMS TACTICAL TRAINER | 0 | 0 | 8044 | 7430 | 8175 | 2475 | 0 | 0 | 26124 |

**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 components. 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.

FY05 funds nonsystem weapons concurrency upgrades, joint close air support improvements and initiates development of the AVCATT-A/Comanche configuration to support Comanche Initial Operational Test and Evaluation (IOT&E). These efforts further support Current-to-Future and Future 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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 8247 | 3998 | 5596 |
| Current Budget (FY 2005 PB) | 8162 | 3956 | 23849 |
| Total Adjustments | -85 | -42 | 18253 |
| Congressional program reductions | | -38 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -85 | -4 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 18253 |

FY05 funding was increased to support the AVCATT-A ($8.032 Million) and Synthetic Environment Core ($10.221 Million) programs.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **571** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 4761 | 3956 | 5584 | 5571 | 5385 | 34 | 43 | Continuing | Continuing |

**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 the current 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 FY05 funding for Close Combat Tactical Trainer will provide the U.S. Army with non-system weapons concurrency upgrades, Generic Reconfigurable Manned Modules, Joint Close Air Support improvements, and upgrade Trainer unique Display. These improvements allow CCTT the opportunity to enchance capabilities as a tactical trainer and maintain concurrency with the structural changes the current battle force is experiencing.

This system supports the Current-to-Future and Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Developed product improvements for Dismounted Infantry (DI) manned 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; updated Synthetic Environment Data Representation and Interchange Specification (SEDRIS) transmittal to current format for CCTT databases. | 4032 | 0 | 0 |
| Provide government program management, engineering, technical, contract and continuous operational evaluation support. | 729 | 758 | 781 |
| Complete refinements to digitial capabilities, enhanced AAR, enhanced Dismounted Infantry Manned Modules, and nonsystem weapons concurrency upgrades. Begin development efforts for generic reconfigurable Manned modules, Mobile Theater AAR capability, Joint Close Air Support improvements. | 0 | 3094 | 4803 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 104 | 0 |
| Totals | 4761 | 3956 | 5584 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0170 SIMNET/CCTT | 51053 | 71160 | 61811 | 63737 | 18799 | 30894 | 44128 | 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

FY05 procurement award 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(R3)

**February 2004**

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 | 3447 | 1-2Q | 0 | | 0 | | 0 | 32651 | 32651 |
| c . Database Development | BAA/CPFF | SAIC, Orlando, FL | 4415 | 276 | 1-2Q | 0 | | 0 | | 0 | 4691 | 4691 |
| d . SEDRIS DATABASES | C/CPFF | SAIC, Orlando, FL | 500 | 0 | | 0 | | 0 | | 0 | 500 | 500 |
| e . CCTT Pre Planned Product Improvements (P3I) | C/CPFF | SAIC, Orlando, FL | 0 | 309 | 4Q | 0 | | 0 | | 0 | 309 | 309 |
| f . CCTT Pre Planned Product Improvements (P3I) | C/TBS | TBS | 0 | 0 | | 3198 | 2Q | 4803 | 2Q | Continue | 8001 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 241010 | 4032 | | 3198 | | 4803 | | Continue | 253043 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 729 | 1-3Q | 758 | 1-3Q | 781 | 1-3Q | 1600 | 17293 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13425 | 729 | | 758 | | 781 | | 1600 | 17293 | 0 |
| Project Total Cost: | | | 286497 | 4761 | | 3956 | | 5584 | | Continue | 302398 | Continue |

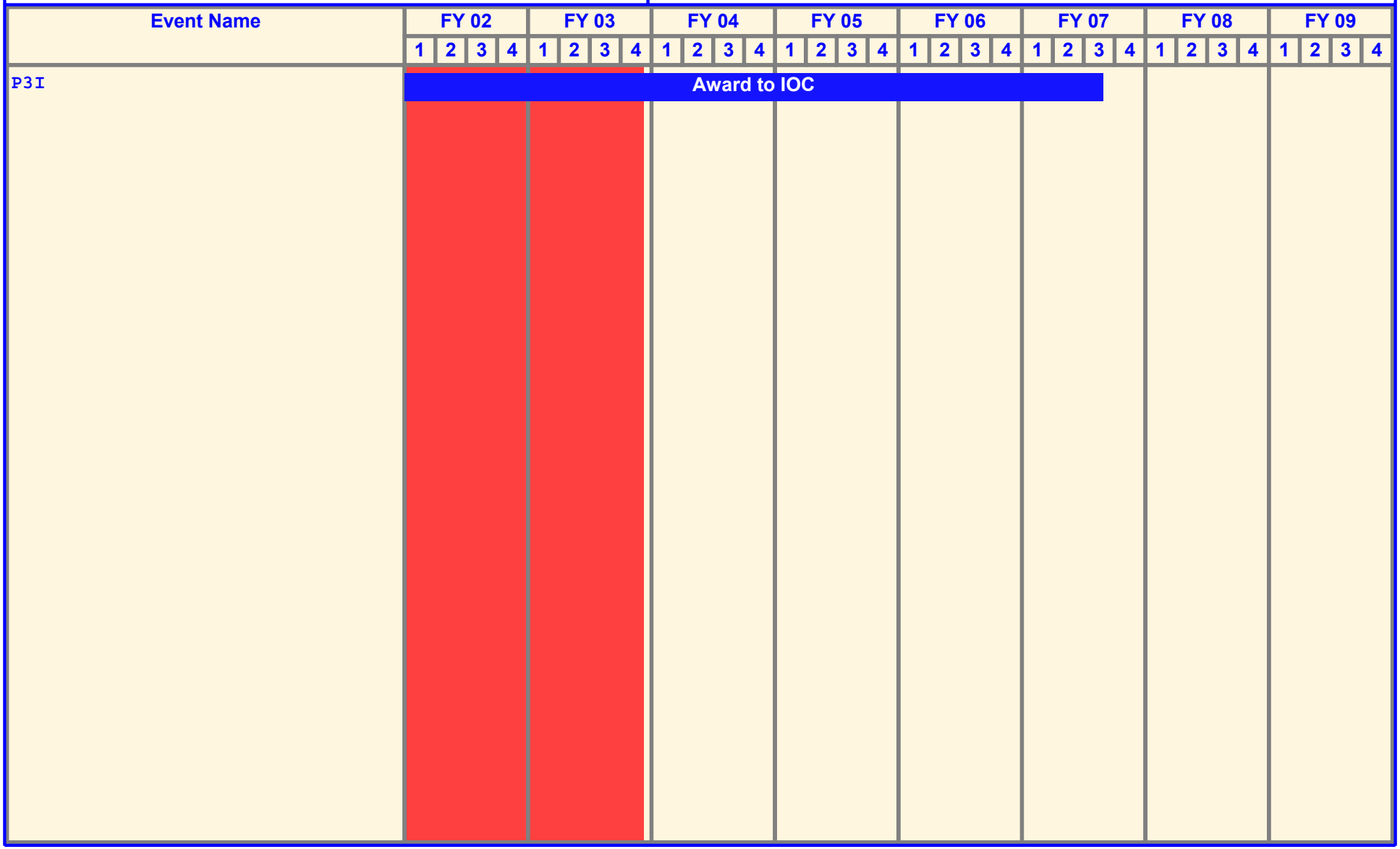
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**571**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **571** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| P3I Software/Hardware Insertions Delivery | 4Q | 4Q | 4Q | 4Q | 4Q | | |
| SEDRIS Databases Delivery | 2Q | | | | | | |
| Army Tactical Command and Control Integration | 3Q | | | | | | |
| Enhanced Dismounted Infantry Delivery | 3Q | | | | | | |
| After Action Review Production Ready Delivery | 3Q | | | | | | |
| Mobile Theater After Action Review Award | | 2Q | | | | | |
| Enhanced-After Action Review Award | | 2Q | | | | | |
| Enhanced-Dismounted Infantry Manned Module Award | | 2Q | | | | | |
| Joint Close Air Support Improvements Award | | 2Q | | | | | |
| Enhanced-After Action Review Delivery | | 3Q | | | | | |
| Enhanced-Dismounted Infantry Module Delivery | | 3Q | | | | | |
| Generic Reconfigurable Manned Module award | | | 1Q | | | | |
| Mobile Theater AAR Delivery | | | 1Q | | | | |
| Joint Close Air Support Improvements Delivery | | | 1Q | 3Q | | | |
| Generic Reconfigurable Manned Module award | | | | 3Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **582** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3401 | 0 | 10221 | 20673 | 26593 | 26890 | 18849 | 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 Current, Stryker, and Future 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 Current-to-Future and Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Provide government program management, engineering, technical, contract, and test support for SE Core. | 813 | 0 | 1304 |
| Maintain support services and government agency support to program office. | 188 | 0 | 0 |
| 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. | 2400 | 0 | 0 |
| Develop a Standardized Terrain Database process to support the development of terrain database for virtual training devices. | 0 | 0 | 3139 |
| Development of Training Support Packages to support combined arms training in AVCATT-A and CCTT. | 0 | 0 | 1977 |
| Integration of OneSAF into AVCATT-A and CCTT. | 0 | 0 | 3801 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 3401 | 0 | 10221 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer | 34944 | 10219 | 40803 | 42772 | 19934 | 17539 | 15640 | 0 | 181851 |
| OPA3, Appropriation NA0170 Close Combat Tactical Trainer (CCTT) | 51053 | 71160 | 61811 | 63737 | 18799 | 30894 | 44128 | 0 | 341582 |

**C. Acquisition Strategy:** System Development and Demonstration (SDD) competitive contract against performance specification.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2400 | 2-4Q | 0 | | 0 | | 0 | 24313 | 24313 |
| b . SE Core | SS/FFP | Kaiser Electro-Optics, Inc. | 53 | 0 | | 0 | | 0 | | 0 | 53 | 53 |
| c . Standardize Terrain Database Process | C/CPAF/FPIF/FFP | TBS | 0 | 0 | | 0 | | 3139 | 1Q | 800 | 3939 | 3939 |
| d . Integration of OneSAF | C/CPAF/FPIF/FFP | TBS | 0 | 0 | | 0 | | 3801 | 1Q | 12959 | 16760 | 16989 |
| e . Development of Training Support Packages | C/CPAF/FPIF/FFP | TBS | 0 | 0 | | 0 | | 1977 | 1Q | 7866 | 9843 | 9843 |
| | | | | | | | | | | | | |
| Subtotal: | | | 21966 | 2400 | | 0 | | 8917 | | 21625 | 54908 | 55137 |

Remarks: Raytheon Systems Co. has sold this part of their company to L-3Com.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| 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 | 0 | | 0 | | 0 | | 0 | 504 | 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 |
| d . Program Support | MIPR | PM Comanche, Redstone Arsenal, AL | 0 | 93 | 4Q | 0 | | 0 | | 0 | 93 | 0 |
| e . Engineering Services & Technical Support | MIPR | CECOM, Ft. Belvoir, VA | 0 | 15 | 2Q | 0 | | 0 | | 0 | 15 | 0 |
| f . Engineering Services & Technical Support | MIPR | DSCRM, Ft. Leavenworth, KS | 0 | 69 | 3Q | 0 | | 0 | | 0 | 69 | 0 |
| g . Engineering Services & Technical Support | MIPR | ARL HRED, Aberdeen Proving Ground, MD | 0 | 4 | 2Q | 0 | | 0 | | 0 | 4 | 0 |
| h . Engineering Services & Technical Support | MIPR | DTC, Aberdeen Proving Ground, MD | 0 | 6 | 2Q | 0 | | 0 | | 0 | 6 | 0 |
| i . Engineering Services & Technical Support | C/FFP/T&M | AISG, Orlando, FL | 0 | 1 | 2Q | 0 | | 0 | | 0 | 1 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| 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: | | | 639 | 188 | | 0 | | 0 | | 0 | 827 | 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 . 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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**

| 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 | 813 | 1-4Q | 0 | | 1304 | 1-3Q | Continue | 3969 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1852 | 813 | | 0 | | 1304 | | Continue | 3969 | 0 |
| Project Total Cost: | | | 24912 | 3401 | | 0 | | 10221 | | Continue | 60159 | 55137 |

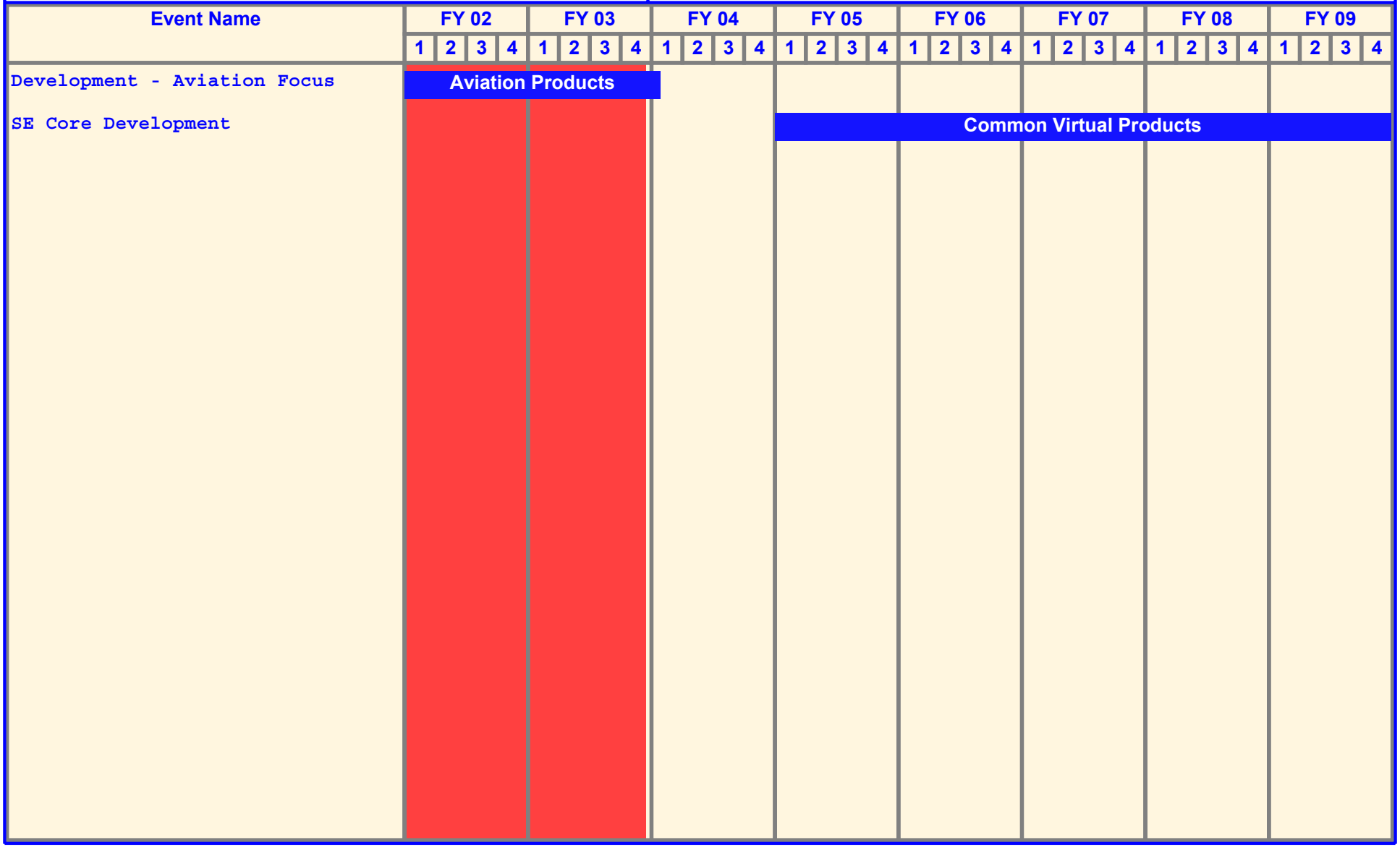
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**582**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **582** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Software Build 4 Test | 1Q | | | | | | |
| System Combined Test (SCT) | 2Q | | | | | | |
| Mission Planning | 4Q | | | | | | |
| SAF Interoperability (other Aviation Sims.) | 4Q | | | | | | |
| Visual and Manned Modules | 4Q | | | | | | |
| Initial Operational Test and Evaluation (IOT&E) | 4Q | | | | | | |
| Standardized Terrain Database Process Award | | | 1Q | | | | |
| Integration of OneSAF into AVCATT-A /CCTT Award | | | 1Q | | | | |
| Standardized Terrain Database Process Delivery | | | | 1Q | | | |
| Integration of OneSAF into AVCATT-A and CCTT | | | | | 4Q | | |
| Development of Training Support Packages | | | | 4Q | 4Q | 4Q | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **585** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 585 | AVIATION COMBINED ARMS TACTICAL TRAINER | 0 | 0 | 8044 | 7430 | 8175 | 2475 | 0 | 0 | 26124 |

**A. Mission Description and Budget Item Justification:** The Aviation Combined Arms Tactical Trainer-Aviation Reconfigurable Manned Simulator (AVCATT-A) is an Army aviation training system for both the Active Component (AC) and Reserve Component (RC) which completed Initial Operational Test & Evaluation (IOT&E) on 1 August 2003. A single suite of equipment consists of two (2) mobile trailers housing six (6) reconfigurable networked simulators that support the AH-64A/D, UH-60A/L, CH-47D, OH-58D, and Comanche platforms. Supporting roleplayer, semi-automated blue and opposing forces (SAF), and after action review (AAR) workstations are also provided as part of each suite. AVCATT-A is a fully mobile system, capable of utilizing shore and generator power and is transportable worldwide. The AVCATT-A system will permit various aviation units to conduct collective task training on a real-time, computerized battlefield in a combined arms scenario. Other required elements that are present on the modern, high intensity battlefield, such as the combat support and combat service support elements are an integral part of the simulation database. AVCATT-A is designed to provide realistic, high intensity collective and combined arms training to aviation units. AVCATT-A supports the Aviation Transformation Plan and the Aviation Combined Army Training Strategy.

This System Development and Demonstration (SDD) effort will fund the AVCATT-A/Comanche configuration to support Comanche IOTE train-up (initial training baseline) in June 2008. Additionally, funds will be used to perform a Helmet Mounted Visual Display study and a Security Assessment. Engineering Change Proposals will be initiated to enhance Classified Operations and the Unmanned Aerial Vehicle capability.

This system supports the Future transition path of the Transformation Campaign Plan (TCP) and is a subordinate simulation system of Future Combat Systems (FCS).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Initiate System Development and Demonstration efforts to fund the AVCATT-A/Comanche configuration to support Comanche IOTE train-up (initial training baseline) June 2008. | 0 | 0 | 4740 |
| Initiate Engineering Change Proposals (ECPs) for refinements to the Classified Operations and Unmanned Aerial Vehicle (UAV) capabilities. | 0 | 0 | 3179 |
| Provide government program management, engineering, technical, contract and test support for AVCATT-A refinements. | 0 | 0 | 125 |
| Totals | 0 | 0 | 8044 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer | 34944 | 10219 | 40803 | 42772 | 19934 | 17539 | 15640 | 0 | 207078 |

**C. Acquisition Strategy:** System Development and Demonstration (SDD) competitive contract against performance specification.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**585**

| 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 . AVCATT-A | C/CPAF/FPIF/FFP | L3Com (Raytheon Systems Co.), Arlington, TX | 0 | 0 | | 0 | | 7919 | 1Q | Continue | 7919 | 8099 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 7919 | | Continue | 7919 | 8099 |

| 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**585**

| 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 Support | | PEO STRI, Orlando, Florida | 0 | 0 | | 0 | | 125 | 1-4Q | Continue | 125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 125 | | Continue | 125 | 0 |
| Project Total Cost: | | | 0 | 0 | | 0 | | 8044 | | Continue | 8044 | 8099 |

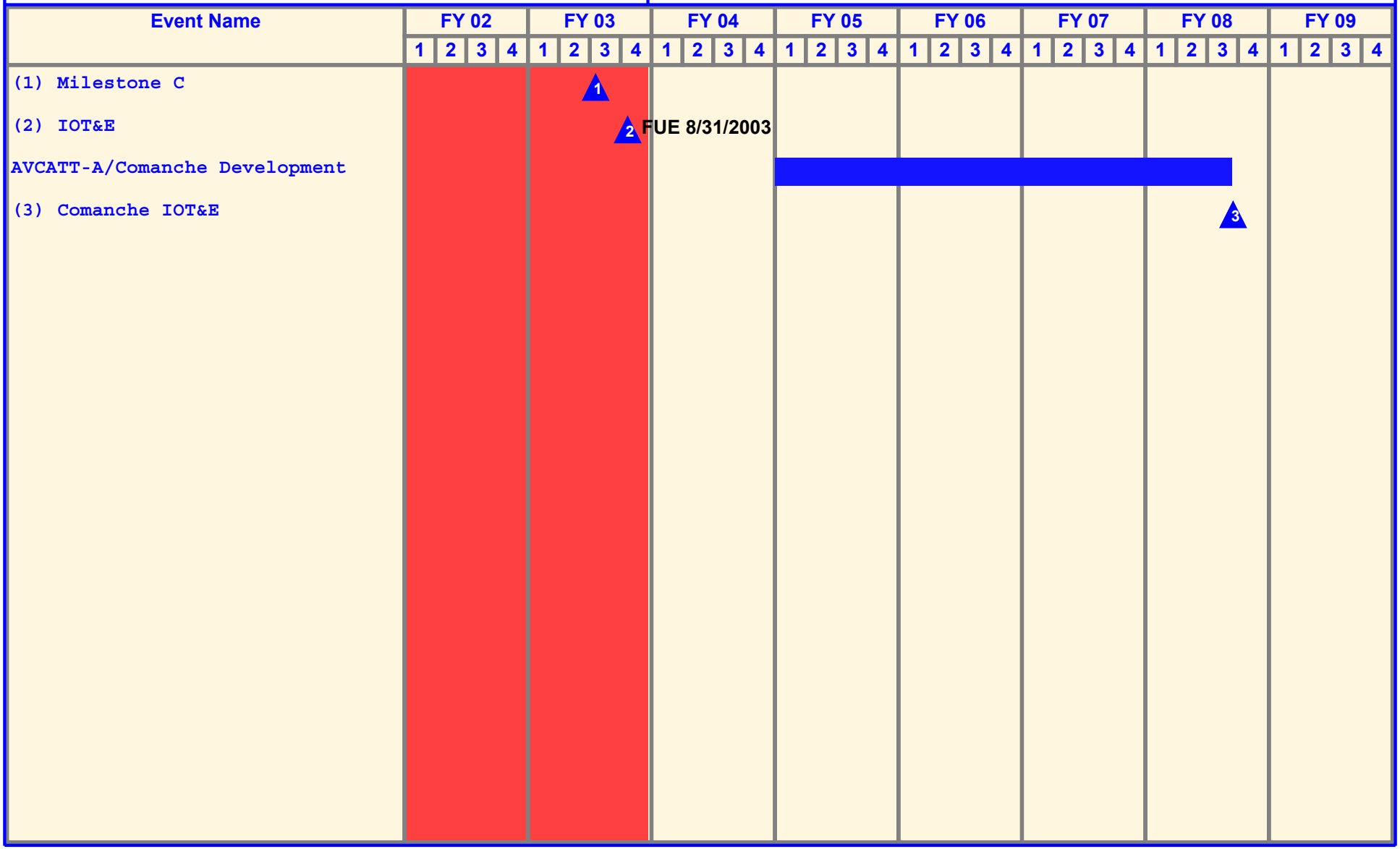
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

PROJECT
**585**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)** | **585** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| AVCATT-A Milestone C | 2Q | | | | | | |
| AVCATT-A Initial Operational Test and Evaluation (IOT&E) | 3Q | | | | | | |
| AVCATT-A/Comanche Configuration Award | | | 1Q | 1Q | 1Q | 1Q | |
| Comanche IOT&E | | | | | | 3Q | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604783A - JOINT NETWORK MANAGEMENT SYSTEM** | **363** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 7673 | 9339 | 10726 | 5347 | 5334 | 2980 | 2914 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Project D363 supports the Joint Network Management System (JNMS) RDTE development effort. The 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 development effort entails development of the JNMS architecture, software development and integration of Government-Off-the-Shelf and Commercial-Off-the Shelf software, functional and operational testing, and development of Integrated Logistics Support data and documentation. Multiple software baselines are to be developed with the first increment to provide base capability to the user, with subsequent baselines each providing additional functionality and capability.

This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP) and the Warfighter Information Network-Tactical (WIN-T).

Accomplishments/Planned Program and RDTE Cost Analysis have been updated to reflect actual costs for FY03 and most recent cost estimates for FY04 and FY05.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Software Development (System Design, Software Integration, and Functional Qualification Testing) for Combined Build Baseline | 4309 | 900 | 0 |
| Plan and Conduct Initial Operational Test and Evaluation (IOT&E) | 2073 | 2537 | 0 |
| Software Development (System Design, Software Integration, and Functional Qualification Testing) for Baseline 2 | 0 | 3850 | 5700 |
| Test and Evaluation (Test Support Costs) Baseline 2 | 0 | 0 | 700 |
| Software Development (System Design, Software Integration,and Functional Qualification Testing) for Baseline 3 | 0 | 0 | 2340 |
| JNMS Support Costs (Software Support and ILS) | 265 | 716 | 666 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| JNMS Management Services (Program Management Office Support) | 1026 | 1067 | 1320 |
| SBIR/STTR | 0 | 269 | 0 |
| Totals | 7673 | 9339 | 10726 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 7677 | 9437 | 10811 |
| Current Budget (FY 2005 PB) | 7673 | 9339 | 10726 |
| Total Adjustments | -4 | -98 | -85 |
| Congressional program reductions | | -89 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -4 | -9 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -85 |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| B95700 JOINT NETWORK MGT SYSTEM | 6682 | 9452 | 12682 | 11899 | 5223 | 3974 | 3773 | Continue | Continue |

**D. Acquisition Strategy:** TRADOC approved Revision 2 to the JNMS Operational Requirements Document (ORD). Milestone A/B approval led to two contract awards to SAIC on 14 May 2001. The first contract, a cost-plus-fixed-fee (CPFF) and firm fixed price (FFP) contract, is for software integration/development, non-recurring engineering efforts, and optional hardware and software procurement for limited and full rate production quantities. This development contract provides the vehicle for the phased development of the JNMS operational baselines, combined build Key Performance Parameter (KPP) Threshold Baselines and subsequent Baselines. The second contract, a time-and-materials contract, covers tasks such as fielding, training, technical assistance, and an option for Post Deployment/Post Production Software Support (PD/PPSS). The SAIC contracts were awarded based on a competitive, best value source selection process. A Milestone C decision is planned for 2QFY04. Functional Qualification Testing (FQT) conducted in 4QFY03 will be used to support the Milestone C decision. The Milestone Decision Authority is the Program Executive Officer, Command, Control, and Communications - Tactical (PEO C3T).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Software Development | CPFF | SAIC - San Diego, CA | 14859 | 2337 | 3Q | 5019 | 1-3Q | 8040 | 2-3Q | Continue | 30255 | 0 |
| b . Hardware/Software Suites | FFP | SAIC - San Diego, CA | 0 | 1972 | 3Q | 0 | | 0 | | 0 | 1972 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 14859 | 4309 | | 5019 | | 8040 | | Continue | 32227 | 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 . Integrated Logistics Support | Various | Misc | 0 | 102 | 2Q | 45 | 2Q | 33 | 2Q | Continue | Continue | 0 |
| b . Software Development Support | Various | Misc | 0 | 163 | 2Q | 671 | 2Q | 633 | 2Q | Continue | 1467 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 265 | | 716 | | 666 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Operational Test Support | T&M | SAIC - San Diego, CA | 0 | 1279 | 4Q | 2037 | 2Q | 0 | 2Q | 0 | 3316 | 0 |
| b . Test Support | Various | Misc | 1621 | 794 | 3Q | 500 | 2Q | 700 | 3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1621 | 2073 | | 2537 | | 700 | | Continue | Continue | 0 |

Remarks: Testing beyond Initial Operational Test and Evaluation (IOT&E) is included in the cost of software development - No additional formal testing is expected.

| 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 | MIPR | Various | 1171 | 209 | 2-3Q | 169 | 3Q | 168 | 2-3Q | Continue | Continue | 0 |
| b . Government Engineering | MIPR | Various | 2805 | 578 | 2Q | 225 | 2Q | 299 | 2Q | Continue | 3907 | 0 |
| c . PM Support | Various | Ft Monmouth, NJ | 769 | 239 | 1-4Q | 337 | 1-4Q | 455 | 1-4Q | Continue | 1800 | 0 |
| d . JNMS MITRE Support | PWD | Eatontown, NJ | 0 | 0 | | 336 | 2Q | 398 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4745 | 1026 | | 1067 | | 1320 | | Continue | Continue | 0 |
| Project Total Cost: | | | 21225 | 7673 | | 9339 | | 10726 | | Continue | Continue | 0 |

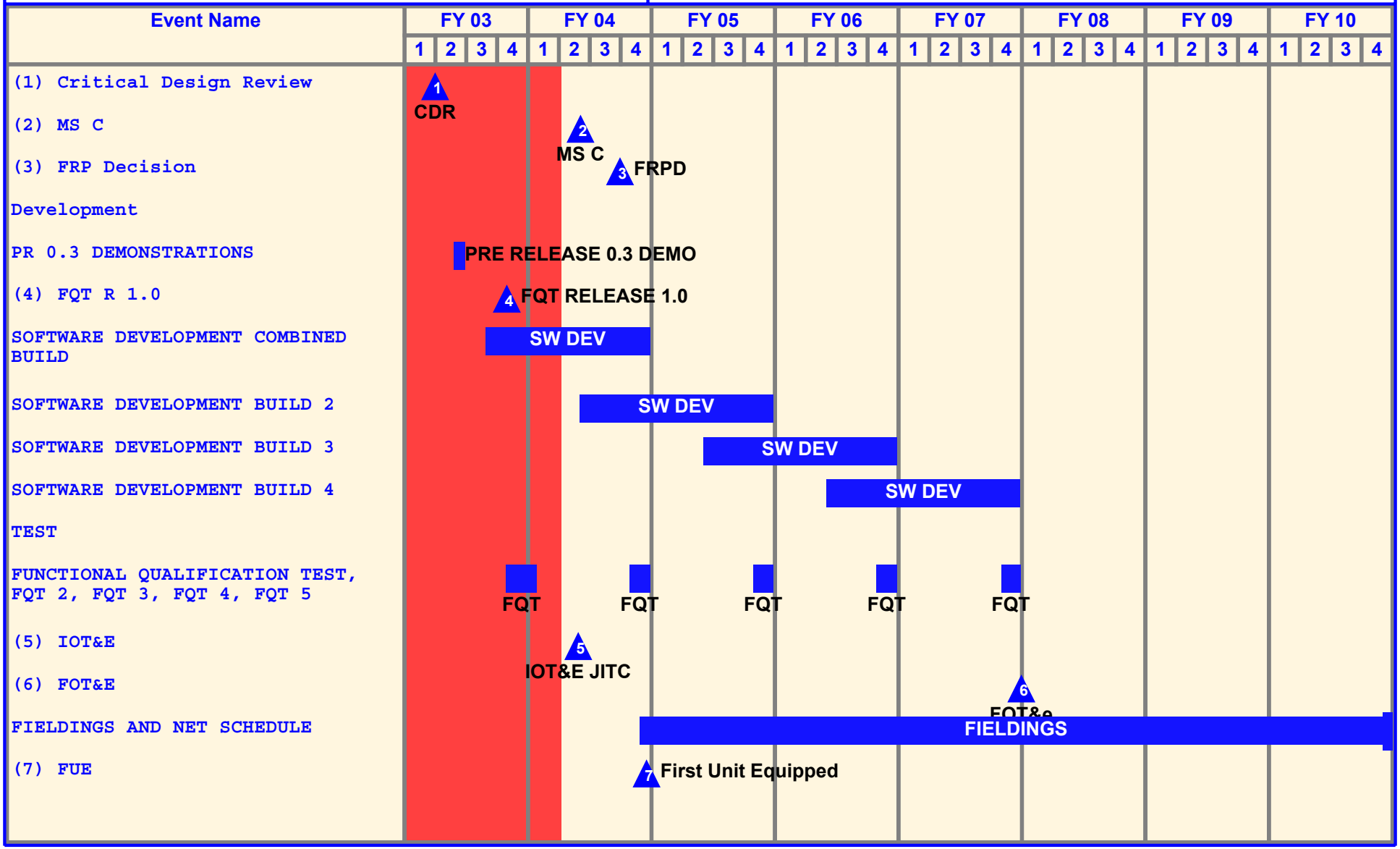
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**

PROJECT
**363**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604783A - JOINT NETWORK MANAGEMENT SYSTEM** | **363** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Software Development for the Combined Build Baseline | 1-3Q | | | | | | |
| Functional Qualification Testing on Combined build Baseline | 4Q | | | | | | |
| Begin Development of Baseline #2 | | 2Q | | | | | |
| Operational Test | | 2Q | | | | | |
| Milestone C Decision | | 2Q | | | | | |
| Material Release | | 4Q | | | | | |
| Full Rate Production Decision | | 4Q | | | | | |
| Functional Qualification Testing for Baseline #2 | | | 4Q | | | | |
| Begin Development of Baseline #3 | | | 2Q | | | | |
| Software Release for Baseline #2 | | | 4Q | | | | |
| Functional Qualification Testing for Baseline #3 | | | | 4Q | | | |
| Begin Development of Baseline #4 | | | | 2Q | | | |
| Software Release for Baseline #3 | | | | 4Q | | | |
| Functional Qualification Testing for Baseline #4 | | | | | 4Q | | |
| Software Release for Baseline #4 | | | | | 4Q | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604801A - Aviation - Eng Dev** | **C45** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 2979 | 3344 | 2378 | 2292 | 2290 | 2517 | 2613 | Continuing | 34476 |

**A. Mission Description and Budget Item Justification:** Project DC45 - Air Warrior System Development and Demonstration: This project provides Engineering Development programs, to include Future Force Warrior, with 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. The Air Warrior program will provide the aircrew with a systems approach to chemical and biological (CB) protection, noise protection, three-dimensional audio and external audio capability, microclimate conditioning, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision capability and heads-up display, directed energy eye protection and flame/heat protection. Specifically, Air Warrior will enable the Army Aviation Warfighter to meet 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, comfort, aircrew station interface, safety, and survivability. 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. 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 Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Complete Air Warrior Block 1 ensemble System Development and Demonstration and begin the integration of preplanned Air Warrior Block 2 improvements. | 2550 | 0 | 0 |
| Continue the integration of preplanned Air Warrior Block 2 improvements. | 0 | 2258 | 2378 |
| Evaluate integrated technologies for the development of high level ballistic protection for aviators. | 429 | 992 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 94 | 0 |
| Totals | 2979 | 3344 | 2378 |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604801A - Aviation - Eng Dev** | **C45** |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 3481 | 2379 | 2390 |
| Current Budget (FY 2005 PB) | 2979 | 3344 | 2378 |
| Total Adjustments | -502 | 965 | -12 |
| Congressional program reductions | | -32 | |
| Congressional rescissions | -51 | | |
| Congressional increases | 500 | 1000 | |
| Reprogrammings | -853 | -3 | |
| SBIR/STTR Transfer | -98 | | |
| Adjustments to Budget Years | | | -12 |

FY2004: $1.0 million Congressional plus-up for Advanced Ballistic Protection.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, A PE 0603801A PROJ DB45 - ACIS AD | 4277 | 7290 | 2841 | 3408 | 3409 | 3487 | 3580 | Continue | Continue |
| Aircraft Procurement, Army SSN AZ3110 - ACIS | 14956 | 32848 | 28609 | 29477 | 34098 | 41343 | 38163 | 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. Air Warrior was approved to proceed into the Engineering and Manufacturing Development in 1st Quarter, FY 1999. A combined government and contractor team developed Air Warrior components and integrated those components into a Block 1 Air Warrior system. After a successful Milestone C decision, production contracts were awarded in FY 2003 for procurement of the Block 1 Air Warrior system. Spiral development, integrating joint and new technologies as improvements to the Air Warrior system, began in FY 2002. These efforts include electronic data management, wireless communications, body armor, modular integrated helmet display systems with increased nuclear, ballistic and laser eye protection, improved Soldier environmental control systems, waste management, and other program integration.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | Various | 17697 | 1747 | 2Q | 1843 | 1Q | 1806 | 1Q | Continue | 23093 | Continue |
| b . Evaluate integrated technologies for high level ballistic protection for aviators | CPFF | Plainsman, Inc., Auburn, AL | 0 | 358 | 2Q | 800 | 2Q | 0 | | 0 | 1158 | 358 |
| | | | | | | | | | | | | |
| Subtotal: | | | 17697 | 2105 | | 2643 | | 1806 | | Continue | 24251 | 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 and Project Order | Various Government | 2186 | 350 | 1-4Q | 164 | 1-4Q | 140 | 1-4Q | Continue | 2840 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 2186 | 350 | | 164 | | 140 | | Continue | 2840 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604801A - Aviation - Eng Dev**

PROJECT
**C45**

| 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 | 322 | 2Q | 279 | 2Q | 220 | 2Q | Continue | 2304 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1483 | 322 | | 279 | | 220 | | Continue | 2304 | 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 | 1435 | 202 | 1-4Q | 258 | 1-4Q | 212 | 1-4Q | Continue | 2107 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1435 | 202 | | 258 | | 212 | | Continue | 2107 | Continue |
| Project Total Cost: | | | 22801 | 2979 | | 3344 | | 2378 | | Continue | 31502 | Continue |

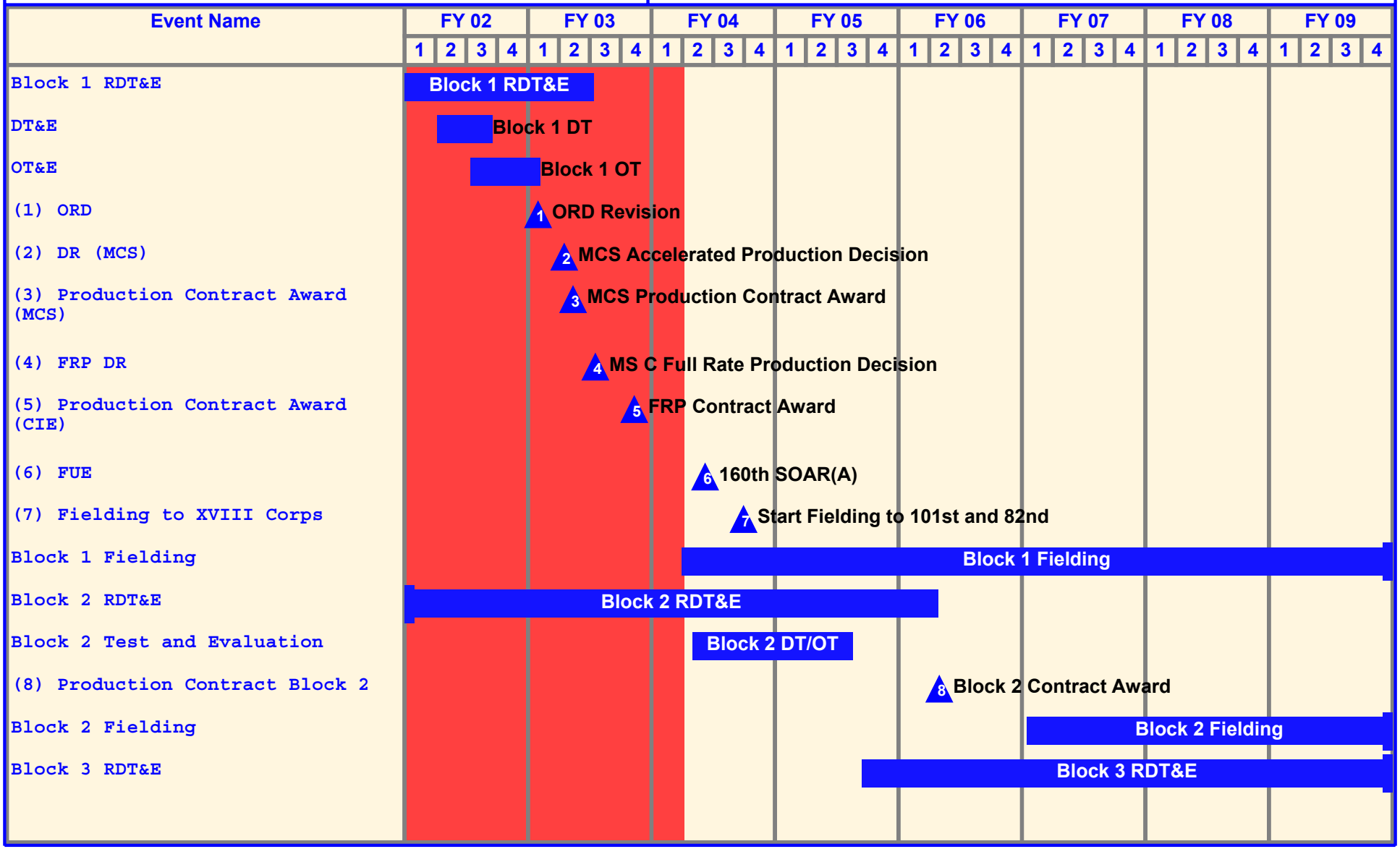
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604801A - Aviation - Eng Dev**

PROJECT
**C45**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604801A - Aviation - Eng Dev** | **C45** |

| **Schedule Detail** | 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. | | | | | | | |
| Completed Air Warrior System Block 1 Developmental and Operational Tests. | 1Q | | | | | | |
| Air Warrior Basic Block 1 ensemble Full Rate Production Decision. | 3Q | | | | | | |
| Advanced Component Development of Air Warrior Block 2 & 3 improvements. | 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 |
| Air Warrior Block 1 FUE. | | 2Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 49830 | 157076 | 125885 | 94190 | 80507 | 55891 | 34494 | Continuing | 632117 |
| 134 | OBJ IND CBT WPN ENG DE | 0 | 0 | 16453 | 14453 | 2880 | 2791 | 0 | 0 | 36577 |
| 613 | MORTAR SYSTEMS | 8184 | 38419 | 19730 | 30927 | 41499 | 39448 | 29768 | Continuing | 228696 |
| 705 | ADV PRECISION KILL WEAPON SYSTEM (APKWS) - SD&ED | 21366 | 46870 | 12450 | 6241 | 5054 | 0 | 0 | 0 | 91981 |
| AS1 | SMALL ARMS IMPROVEMENT | 8389 | 8384 | 11373 | 6258 | 2353 | 13652 | 4726 | 0 | 67216 |
| AS5 | ARTILLERY MUNITIONS ENGINEERING DEVELOPMENT | 6201 | 23017 | 0 | 0 | 0 | 0 | 0 | 0 | 30660 |
| AS6 | COMMON REMOTELY OPERATED WEAPONS STATION (CROWS) | 2581 | 2969 | 0 | 0 | 0 | 0 | 0 | 0 | 5550 |
| AS8 | XM395 PRECISION GUIDED MORTAR MUNITION (PGMM) | 1434 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1434 |
| S23 | SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM) | 1675 | 37417 | 65879 | 36311 | 28721 | 0 | 0 | 0 | 170003 |

**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 (134) funds the spiral development of 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 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 first spiral will be the XM8 Assault Weapon. This system supports the Current to Future transition path of the Transfromation Campaign Plan (TCP).

The Mortar Systems (613) 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 and the 120mm XM982 Short Range Practice Cartridge.

Project 705, 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

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 Current to Future 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 Current transition path of the Transformation Campaign Plan (TCP). Additionally, this project funds the development of the Advanced Concept Artillery Program (ACA2P), Dual Purpose Improved Conventional Munitions, and Hybrid Propellant for the Future Combat System.

The Remote Mount Platform (CROWS) (AS6) addresses the modernization of existing small arms weapons systems by providing for the engineering and manufacturing development of a remote mounting system for heavy and medium machine guns (MK19 and M2, M240B/M249 SAW). The CROWS will provide the capability to remotely operate crew served weapons, improve system accuracy and operational response time by integrating state of the art drives, controls and sensors. The CROWS will also provide a baseline for a common armament platform for insertion across a variety of vehicles to reduce life cycle cost. The system will be modular and have an open architecture to permit further improvements. The system will improve aiming accuracy and maximize probability of hit against a wide variety of targets. The funded effort will provide pre-producton prototype systems for the Armored Security Vehicle, Up-Armored HMMWV and Future Combat Systems (FCS) in accordance with the Current to Future transition path of the Army's 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 Future transformation path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 50341 | 129409 | 133444 |
| Current Budget (FY 2005 PB) | 49830 | 157076 | 125885 |
| Total Adjustments | -511 | 27667 | -7559 |
| Congressional program reductions | | -1512 | |
| Congressional rescissions | | | |
| Congressional increases | | 31450 | |
| Reprogrammings | -511 | -2271 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -7559 |

FY 2004: Funds increased (+$31.5 million) for Congressional Adds for the following efforts:

Common Remotely Operated Weapon Station (+$3.0 million)
XM932 Short Range Practice Cartridge (+$1.2 million)
Advanced Concept Artillery Program (ACA2P) (+$8.5 million)
Small Arms Fire Control System II (+$1.7 million)
Advanced Precision Kill Weapon System (+$7.0 million)
Precision Guided Mortar Munition (+$2.8 million)
Rapidly Installed Fuel Transfer System (+$5.25 million)
Dual Purpose Improved Conventional Muntions (+$1.0 million)
Hybrid Propellant For FCS Application (+$1.0 million)

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **134** |

| COST (In Thousands) | FY 2003 Actual | 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 | 16453 | 14453 | 2880 | 2791 | 0 | 0 | 36577 |

**A. Mission Description and Budget Item Justification:** The XM8 Assault Weapon is a spiral development program from the 5.56mm kinetic energy (KE) carbine portion of the XM29, Integrated Air Burst Weapon. The XM8 represents the state-of-the-art 5.56mm assault weapons. The XM8 Assault Weapon is lighter than a comparably equipped M4 Carbine Modular Weapon System (MWS) with improved features and performance unavailable in the current M4. The XM8 will have four variants, a baseline assault weapon, sharpshooter variant, automatic rifle variant and a compact variant. To meet changing mission requirements these variants are easily and quickly reconfigured by the individual Soldier with the use of interchangeable assembly groups such as barrel, handguard, low receiver, buttstock modules and sighting system. The XM8 Assault Weapon will increase reliability and decrease logistic operations. Due to the immediate benefits of the XM8 Assault Weapon, the Department of Army has accelerated this program. This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

The XM25 Assault Weapon is the air burst portion of the XM29, Integrated Air Burst Weapon. The XM25 Air Burst Assault Weapon dramatically increases Soldier survivability, standoff and versatility. The air burst weapon provides the Soldier with a 300-500% increase in hit probability to defeat point, area and defilade targets out to approximately 500 meters. The XM25 weapon includes revolutionary high explosive air bursting munitions and an integrated, multifunctional, all environment, full-solution target acquisition / fire control system. This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

This project is a spiral development program from Budget Activity 4 (PE 0603802 AS3).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| XM8 - Program Development and Engineering Changes | 0 | 0 | 1700 |
| XM8 - Fabrication for Testing | 0 | 0 | 1000 |
| XM8 - Production Verification Test | 0 | 0 | 500 |
| XM8 - Logstic Demonstration and IOT&E | 0 | 0 | 6000 |
| XM25 - Program Development | 0 | 0 | 1253 |
| XM25 - Finalize Design and Development | 0 | 0 | 6000 |
| Totals | 0 | 0 | 16453 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| WTCV: SSN G16102 XM-8 Carbine (5.56mm) | 0 | 0 | 500 | 500 | 32191 | 42573 | 42654 | Continuing | Continuing |
| RDTE: PE 0603802A, project AS3 | 26898 | 31500 | 0 | 0 | 0 | 0 | 0 | 0 | 58398 |

**C. Acquisition Strategy:** Using a spiral acquisition strategy the XM8 Carbine is being developed as a new assault weapon from the 5.56mm kinetic energy (KE) carbine portion of the XM29, Integrated Air Burst Weapon. In June 2003 an Acquisition Decision Memorandum was signed by Program Executive Officer (PEO) Soldier authorizing the initiation of a project to develop the XM8 as an early block development. Exit criteria and key performance parameters were established for an accelerated program. The System Development and Demonstration (SDD) phase will complete development of the XM8 weapon system and verify training solution for Milestone C approval in FY 2005.

The XM25 Air Burst Assault Weapon will reach Milestone B in FY 2005. The System Development and Demonstration (SDD) phase will complete development of the XM25 weapon system and verify training solution for the Milestone C approval in FY 2008.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . XM8 - Engineering Changes | Cost Plus Fixed Fee | TBD | 0 | 0 | | 0 | | 725 | 1Q | 0 | 725 | 0 |
| b . XM8 - Fabrication | Cost Plus Fixed Fee | TBD | 0 | 0 | | 0 | | 1000 | 2Q | 0 | 1000 | 0 |
| c . XM25 - Design and Development | Cost Plus Fixed Fee | Alliant Technology Systems, Plymouth, MN | 0 | 0 | | 0 | | 6000 | 2Q | 0 | 6000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 7725 | | 0 | 7725 | 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 . XM8 - Engineering Support | MIPR | Multiple | 0 | 0 | | 0 | | 300 | 1-4Q | 0 | 300 | 0 |
| b . XM8 - Logistics Support | MIPR | Multiple | 0 | 0 | | 0 | | 250 | 1-4Q | 0 | 250 | 0 |
| c . XM25 - Engineering Support | MIPR | Multiple | 0 | 0 | | 0 | | 600 | 1-4Q | 0 | 600 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**

| 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: | | | 0 | 0 | | 0 | | 1150 | | 0 | 1150 | 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 . XM8 - Productioin Verification Test | MIPR | Army Test & Evaluation Command, VA | 0 | 0 | | 0 | | 500 | 2-3Q | 0 | 500 | 0 |
| b . XM8 - Logistic Demo and IOT&E | MIPR | Army Test & Evaluation Command, VA | 0 | 0 | | 0 | | 6000 | 3-4Q | 0 | 6000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 6500 | | 0 | 6500 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**

| 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 | | 578 | 1-4Q | 0 | 578 | 0 |
| b . Program Management Support | Time & Material | International Consultants, Inc., Dayton, OH | 0 | 0 | | 0 | | 500 | 2Q | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 1078 | | 0 | 1078 | 0 |
| Project Total Cost: | | | 0 | 0 | | 0 | | 16453 | | 0 | 16453 | 0 |

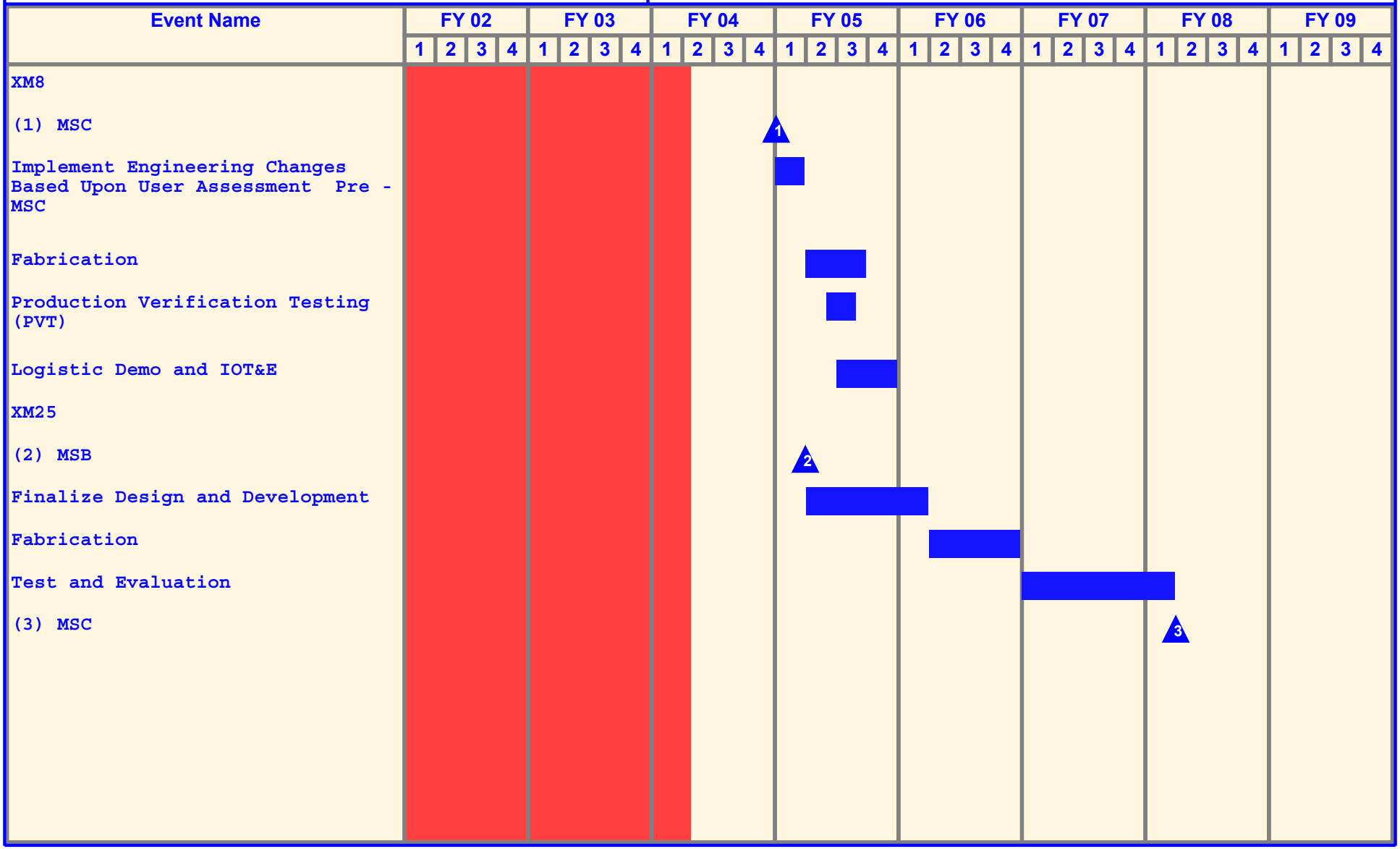
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**134**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **134** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| XM8 - Milestone C | | | 1Q | | | | |
| XM8 - Engineering Changes based upon Pre-MS C User Assessment | | | 1Q | | | | |
| XM8 - Fabrication | | | 2-3Q | | | | |
| XM8 - Production Verification Test | | | 2-3Q | | | | |
| XM8 - Logistic Demo and IOT&E | | | 3-4Q | | | | |
| XM25 - Milestone B | | | 1Q | | | | |
| XM25 - Final Design and Development | | | 2-4Q | 1Q | | | |
| XM25 - Fabrication | | | | 2-4Q | | | |
| XM25 - Test and Evaluation | | | | | 1-4Q | 1Q | |
| XM25 Milestone C | | | | | | 2Q | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| COST (In Thousands) | FY 2003 Actual | 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 | 8184 | 38419 | 19730 | 30927 | 41499 | 39448 | 29768 | Continuing | 228696 |

**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 systems, 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 and fire in one minute or less, 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 Current-to-Future path of the Transformation Campaign Plan (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, and training devices. FY04-FY08 funds provide for start and completion of System Development & Demonstration (SDD) of a Increment 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, command and control centers, and stationary lightly armored vehicles. 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 Current-to-Future transition path of the TCP.

The Mortar Anti-Personnel - Anti-Materiel (MAPAM) round is a program to evaluate and, if possible, type classify a foreign round. Rounds have been procured for comparative testing via sole source contract to SM Swiss Ammunition Enterprise Corp.

The 120mm XM982 Short Range Practice Cartridge will allow mortar crewmen to practice 120mm mortar firing techniques on ranges with limited impact areas.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| MFCS: Hardware Development | 2037 | 1369 | 2120 |
| MFCS: Software Development | 2379 | 633 | 1355 |
| MFCS: Test & Evaluation | 100 | 1955 | 960 |
| MFCS: Program Management | 270 | 150 | 150 |
| MFCS: Development Engineering | 250 | 470 | 440 |
| PGMM: SD&D Subsystem Test and System Integration | 0 | 25060 | 9775 |
| PGMM: System Engineering | 0 | 4000 | 3400 |
| PGMM: Program Management | 0 | 1100 | 990 |
| PGMM: Development Test & Evaluation | 0 | 1400 | 540 |
| MAPAM: System Engineering | 1182 | 0 | 0 |
| MAPAM: Test and Evaluation | 910 | 0 | 0 |
| MAPAM: Vendor Hardware | 251 | 0 | 0 |
| MAPAM: Contract Engineering Support | 400 | 0 | 0 |
| MAPAM: Component Hardware and LAP | 344 | 0 | 0 |
| MAPAM: Program Management | 61 | 0 | 0 |
| 120mm SRPC: Development | 0 | 715 | 0 |
| 120mm SRPC: Test and Evaluation | 0 | 400 | 0 |
| 120mm SRPC: Program Management | 0 | 50 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 1117 | 0 |
| Totals | 8184 | 38419 | 19730 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Other Procurement, Army-2-: K99300 (MFCS) | 30013 | 39224 | 14633 | 18877 | 37528 | 0 | 0 | 0 | 149925 |
| 0603802 AS4 Weapons and Munitions Advanced Development, Mortar Systems | 7740 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10427 |
| Procurement, Army Ammunition - E86200 (CTG, Mortar, 120mm, PGMM) | 0 | 0 | 0 | 0 | 9882 | 23458 | 19567 | 181103 | 234010 |

**C. Acquisition Strategy:** The acquisition strategy for Mortar Fire Control System includes product development efforts performed by the government and industry. RDECOM, specifically ARDEC, will develop all versions of Mortar Fire Control software for all platforms, and will also provide post deployment software support. Most hardware and integration efforts will be performed by Honeywell Defense and Space Electronic Systems. However, hardware for the light weight handheld computer, as required by the MFCS Operational Requirements Document (ORD) for dismounted operations, will be procured through the PM Common Hardware/Software Task contract.

The Precision Guided Mortar Munition (PGMM) Component Advanced Development (CAD) phase contract was awarded sole source to Lockheed Martin, Orlando, FL and was completed in September 2003. The PGMM program had a successful Milestone B program review and was given conditional approval to begin the Systems Development and Demonstration (SDD) phase, subject to approval of the Operational Requirements Document (ORD). The Army approved the ORD at the 3-Star level on 20 Nov 2003, and the ORD is currently being staffed through the Joint Requirements Oversight Council (JROC). The SDD source selection has been completed and contract award will be made to Alliant Techsystems pending completion of the JROC review in 2QFY04 and subsequent to ORD approval by the Chief of Staff of the Army (CSA).

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.

The 120mm XM982 Short Range Practice Cartridge is being developed by the government at ARDEC.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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: Software Development (LHMBC) | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 1311 | 2379 | 2Q | 633 | 2Q | 1355 | 2Q | 0 | 5678 | 0 |
| b . MFCS: Hardware Development | Contract | Honeywell Defense Electronics Systems, Albuqu | 0 | 857 | 4Q | 0 | 2Q | 1640 | 2Q | 0 | 2497 | 0 |
| c . MFCS: Fire Direction Center Hardware Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 800 | 2Q | 0 | | 0 | | 0 | 800 | 0 |
| d . LHMBC: Hardware Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 0 | | 473 | 2Q | 0 | | 0 | 473 | 0 |
| e . LHMBC: Hardware | Contract | CHS2 Fort Monmouth, NJ | 0 | 0 | | 400 | 3Q | 0 | | 0 | 400 | 0 |
| f . PGMM: SD&D - Subsystem Test & System Integration | Competitive /CPIF | ATK Plymouth, MN | 0 | 0 | | 25060 | 2-3Q | 9775 | 2-3Q | 0 | 34835 | 0 |
| g . MAPAM: Component Hardware and LAP | SS/FP | SM Swiss AEC Zurich, Switzerland | 0 | 344 | 4Q | 0 | | 0 | | 0 | 344 | 0 |
| h . MAPAM: Vendor Hardware | SS/FP | SM Swiss AEC Zurich, Switzerland | 6302 | 251 | 2Q | 0 | | 0 | | 0 | 6553 | 0 |
| i . 120mm SRPC: Development | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 0 | | 335 | 3Q | 0 | | 0 | 335 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . 120mm SRPC: Development | Contract | Pocal Industries Moscow, PA | 0 | 0 | | 380 | 3Q | 0 | | 0 | 380 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7613 | 4631 | | 27281 | | 12770 | | 0 | 52295 | 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 . MFCS: 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 | 200 | 2Q | 170 | 2Q | 0 | 846 | 0 |
| c . MAPAM: System Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 3100 | 1182 | 2Q | 0 | | 0 | | 0 | 4282 | 0 |
| d . MFCS: Development Support | T&M Contract | CSC | 0 | 300 | 2Q | 100 | 2Q | 100 | 2Q | 0 | 500 | 0 |
| e . LHMBC: Development Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 0 | | 496 | 2Q | 480 | 2Q | 0 | 976 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**

| 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 . LHMBC: Development Engineering | Contract | Robbins Gioia | 0 | 0 | | 40 | 2Q | 40 | 2Q | 0 | 80 | 0 |
| g . LHMBC: Development Engineering | Contract | Camber | 0 | 0 | | 130 | 2Q | 130 | 2Q | 0 | 260 | 0 |
| h . PGMM: Systems Engineering | Project Order | TACOM-ARDEC Picatinny Arsenal NJ | 0 | 0 | | 4000 | 2-3Q | 3400 | 2-3Q | 0 | 7400 | 0 |
| i . MAPAM: Contract Engineering Support | SS/FP | SM Swiss AEC, Zurich, Switzerland | 0 | 400 | 2Q | 0 | | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8391 | 2212 | | 4966 | | 4320 | | 0 | 19889 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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: Development Test & Evaluation | MIPR | ATEC, Alexandria, VA | 3635 | 0 | | 0 | | 0 | | 0 | 3635 | 0 |
| b . LHMBC: Development Test & Evaluation | MIPR | ATEC, Alexandria, VA | 0 | 0 | | 1371 | 4Q | 460 | 3Q | 0 | 1831 | 0 |
| c . MFCS: Information Assurance | MIPR | CECOM Ft Monmouth NJ | 178 | 0 | | 0 | | 0 | | 0 | 178 | 0 |
| d . LHMBC: Information Assurance | MIPR | CECOM Ft Monmouth NJ | 0 | 0 | | 150 | 2Q | 100 | 2Q | 0 | 250 | 0 |
| e . MFCS: Development Test | Project Order | TACOM-ARDEC Picatinny Arsenal, NJ | 0 | 100 | 2Q | 0 | | 0 | | 0 | 100 | 0 |
| f . LHMBC: Development Test (PQT) | Project Order | TACOM-ARDEC Picatinny Arsenal, NJ | 0 | 0 | | 434 | 2Q | 400 | 2Q | 0 | 834 | 0 |
| g . PGMM: Development Test and Evaluation | Project Order | ATEC, Alexandria, VA | 0 | 0 | | 1400 | 2-3Q | 540 | 2-3Q | 0 | 1940 | 0 |
| h . MAPAM: PQT | Project Order | Yuma Proving Ground, Yuma, AZ | 0 | 910 | 3Q | 0 | | 0 | | 0 | 910 | 0 |
| i . 120mm SRPC: Test and Evaluation | Project Order | Yuma Proving Ground Yuma, AZ | 0 | 0 | | 400 | 3Q | 0 | | 0 | 400 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 3813 | 1010 | | 3755 | | 1500 | | 0 | 10078 | 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 . Mortar Fire Control System | In-house | PM Mortars, Picatinny Arsenal NJ | 1601 | 270 | 1Q | 150 | 2Q | 150 | 2Q | 0 | 2171 | 0 |
| b . MAPAM | In-house | PM Mortars, Picatinny Arsenal NJ | 233 | 61 | 2Q | 0 | | 0 | | 0 | 294 | 0 |
| c . Precision Guided Mortar Munition | In-House | PM Mortars, Picatinny Arsenal NJ | 0 | 0 | | 1100 | 2Q | 990 | 2Q | 0 | 2090 | 0 |
| d . 120mm SRPC | In-House | PM Mortars, Picatinny Arsenal NJ | 0 | 0 | | 50 | 2Q | 0 | | 0 | 50 | 0 |
| e . SBIR/STTR | | | 0 | 0 | | 1117 | | 0 | | 0 | 1117 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1834 | 331 | | 2417 | | 1140 | | 0 | 5722 | 0 |
| Project Total Cost: | | | 21651 | 8184 | | 38419 | | 19730 | | 0 | 87984 | 0 |

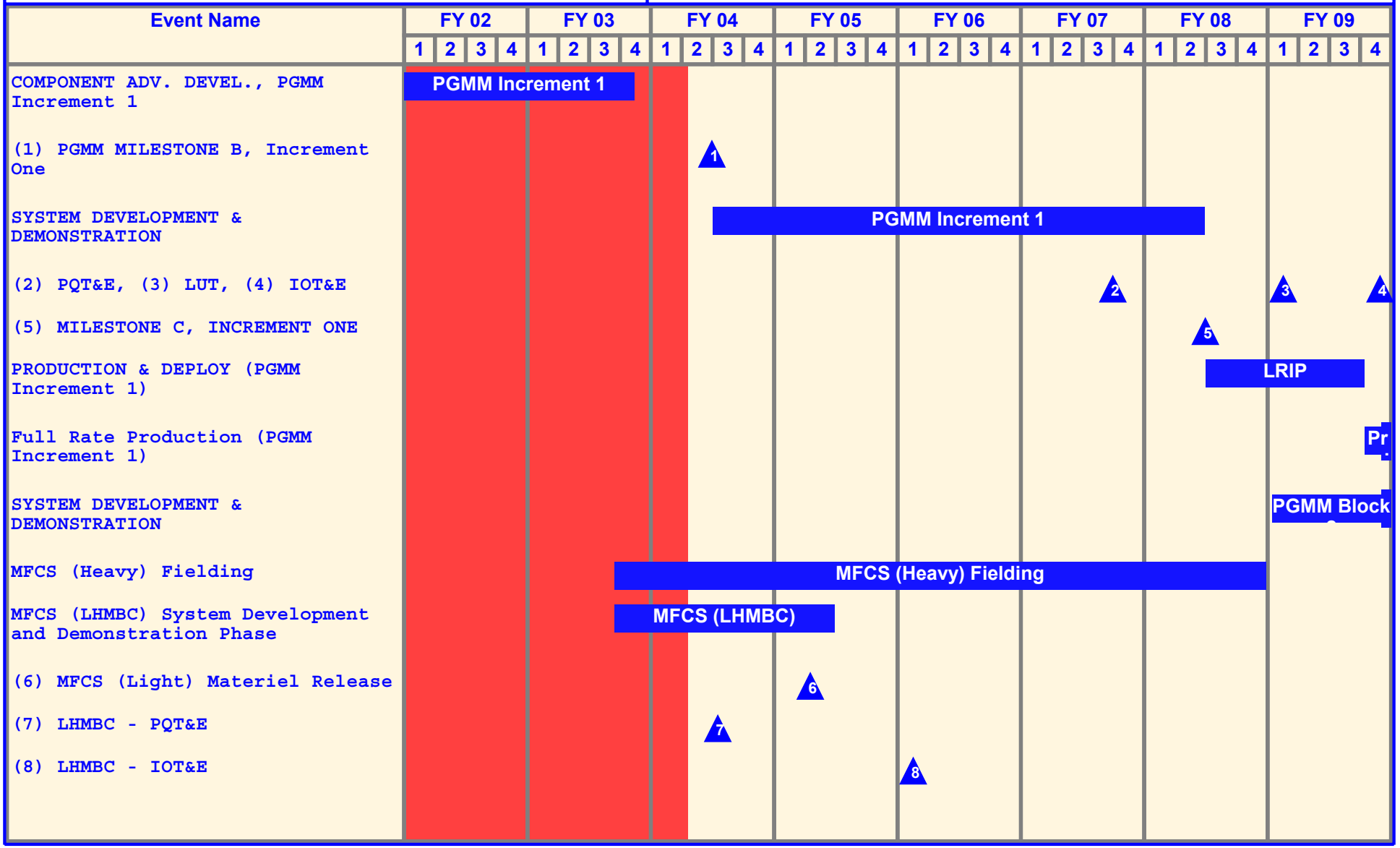
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**613**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **613** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| LHMBC Production Qualification Test | | 3Q | | | | | |
| LHMBC IOT&E | | | 1Q | | | | |
| LHMBC Type Classification | | | 2Q | | | | |
| LHMBC First Unit Equipped | | | 3Q | | | | |
| PGMM Start SD&D Increment 1 | | 2Q | | | | | |
| PGMM Type Classification | | | | | | 2Q | |
| PGMM Qualification/User Tests MS C (Increment 1) | | | | | | 3-4Q | 1Q |
| PGMM Start SD&D Increment 2 | | | | | | 3Q | |
| PGMM IOT&E | | | | | | | 4Q |
| 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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **705** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 21366 | 46870 | 12450 | 6241 | 5054 | 0 | 0 | 0 | 91981 |

**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. The funding supports system level qualification and operational testing 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. APKWS is an FCS unit of action complementary system. The APKWS program supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Define and develop system requirements and preliminary design for precision guided rocket including hardware and software. | 19244 | 37446 | 7192 |
| Develop test plans and test support equipment. | 1353 | 1571 | 3620 |
| Perform government engineering support. | 769 | 1293 | 1638 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 1310 | 0 |
| Realign funds to proper PE for execution of funds to support Rapidly Installed Fuel Transfer System | 0 | 5250 | 0 |
| Totals | 21366 | 46870 | 12450 |

| B. Other Program Funding Summary | 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 | 6879 | 15681 | 83810 | 124958 | 160953 | 1435900 | 1828181 |
| 0203802, project 786 (APKWS Simulator Upgrade) | 0 | 0 | 4863 | 9858 | 8987 | 22916 | 21623 | 0 | 68247 |

*FY04 funding includes $5.250 added by Congress for Rapidly Installed Fuel Transfer System which will be properly aligned to PE 0603804A, Project 526 for execution.

**C. Acquisition Strategy:** Development of the APKWS will be sole source. The APKWS Block 1 development program is a 30-month effort. 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(R3)

**February 2004**

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 | General Dynamics Armament and Technical Products, Inc. | 0 | 17656 | 2Q | 35918 | 2Q | 5443 | 2Q | 0 | 59017 | 0 |
| b . Support Costs | Various | Various | 0 | 391 | 1-4Q | 977 | 1-4Q | 792 | 1-4Q | 1842 | 4002 | 0 |
| c . Development Engineering | Various | Various | 0 | 1197 | 1-4Q | 1861 | 1-4Q | 957 | 1-4Q | 0 | 4015 | 0 |
| d . Rapidly Installed Fuel Transfer System Realignment | | | 0 | 0 | | 5250 | | 0 | | 0 | 5250 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 19244 | | 44006 | | 7192 | | 1842 | 72284 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**705**

| 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 . Test Support | Various | Various | 0 | 1353 | 1Q | 1571 | | 3620 | | 7045 | 13589 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1353 | | 1571 | | 3620 | | 7045 | 13589 | 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 | 769 | 1-4Q | 1293 | 1-4Q | 1638 | 1-4Q | 1315 | 5015 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 769 | | 1293 | | 1638 | | 1315 | 5015 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 21366 | | 46870 | | 12450 | | 10202 | 90888 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **705** |

| Schedule Detail | 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 | | | 4Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 8389 | 8384 | 11373 | 6258 | 2353 | 13652 | 4726 | 0 | 67216 |

**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. Future programs will provide enhancements to weapons, fire control, ammo and optics through improved technology associated with obscurants, reconnaissance, observation, non-lethal, lethal and electronics. 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, Medium Machine Guns, mounts, ammunition to include thermobarics and hand grenades. Future programs include Lt Wt Ammo (FY 05 New Start), Non Toxic Ammo, Sniper Weapons Improvements, Airburst Ammo, Lt Wt Machine Gun, M249 200 Round Ammo Pack (FY 04 New Start), M249 Short Range Training Ammo, XM116 Sight Computerized (SAFC), Aviation Variant High Capacity Feed System (FY 05 New Start) and Payload Rifle (transition from AS2 Adv Dev). Platform Integration is a FY 05 New Start which include the development of a High Mobility Multi Wheeled Vehicle (HMMWV) Auxiliary Weapon Mount (HAWM), an improved pedestal for the MG Mount allowing 360 degree target engagement, a swing arm, allowing the use of various weapons outside the doors of numerous vehicles, and a MK93/MK64 cradle adapter providing soldier with the capability of using M249/M240's on MK93/MK64's and CROWS Weight Reduction. Future requirements will also be pursued for alternate integration of M249 mounts, M240 mounts, MK19 mounts and XM307 mounts with numerous alternate platforms. These small arms weapon systems support the Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Light-Weight Ground Mount (XM192) - Complete | 0 | 0 | 0 |
| - Technical Testing | 332 | 0 | 0 |
| - Operational Testing | 386 | 0 | 0 |
| - Complete Hardware Modifications | 278 | 0 | 0 |
| - Independent Evaluation | 125 | 0 | 0 |
| - MS C | 160 | 0 | 0 |
| M249 200-RD Ammo Pack/Mount Investigation - FY04 New Start | 0 | 0 | 0 |
| - Engineering Development | 0 | 325 | 0 |
| - Technical Assessment | 0 | 30 | 0 |
| - Award Development Contract | 0 | 65 | 0 |
| - Hardware Fabrication | 0 | 130 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| - Technical Test | 0 | 0 | 265 |
| - User Assessment | 0 | 0 | 65 |
| - Design Qualification | 0 | 0 | 520 |
| M249 MG Barrel Life Extension Program - Complete | 0 | 0 | 0 |
| - Fabricate Pre-Production Hardware | 100 | 0 | 0 |
| - Test Pre-Production Hardware | 102 | 0 | 0 |
| - Complete Final Report | 30 | 0 | 0 |
| M249 Short Range Training Ammunition - Ongoing | 0 | 0 | 0 |
| - Engineering Development | 185 | 0 | 0 |
| - Technical Assessment | 25 | 0 | 0 |
| - Design Finalization | 88 | 0 | 0 |
| - Manufacture Prototypes | 0 | 40 | 0 |
| - Conduct Development Tests | 0 | 75 | 0 |
| - Engineering Analysis | 0 | 65 | 0 |
| - Manufacture PPQT Samples | 0 | 295 | 0 |
| - DT | 0 | 0 | 150 |
| - Safety Confirmation | 0 | 0 | 10 |
| - Limited User Test | 0 | 0 | 20 |
| - System Evaluation Report | 0 | 0 | 10 |
| - MS C | 0 | 0 | 26 |
| XM116 SIGHT, COMPUTERIZED, SAFC - FY04 Congressional Plus-up | 0 | 0 | 0 |
| - Engineering Development | 0 | 578 | 0 |
| - Technical Testing | 0 | 561 | 0 |
| - User Assessment | 0 | 391 | 0 |
| - Test Reports/Evaluations | 0 | 170 | 0 |
| MK19 Self-Destruct Cartridge - Ongoing | 0 | 0 | 0 |
| - Prepare Program Doc/MS B | 75 | 0 | 0 |
| - Solicitation | 100 | 0 | 0 |
| - Bid Sample Test and Evaluation | 130 | 0 | 0 |
| - Contract Award | 75 | 0 | 0 |
| - Build/Test Validation Samples | 510 | 0 | 0 |
| - Manufacture PPQ Quantity | 0 | 635 | 0 |
| - DT | 0 | 490 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| - OT/LFT | 0 | 100 | 0 |
| - Systems Evaluation Report (SER) | 0 | 0 | 75 |
| - Prepare MS C IPR Package | 0 | 0 | 235 |
| - MS C | 0 | 0 | 82 |
| Medium Machine Gun Weight Reduction/Mounts - Ongoing | 0 | 0 | 0 |
| - Engineering Tests | 80 | 0 | 0 |
| - Award Contract | 234 | 0 | 0 |
| - Finalize Design | 103 | 0 | 0 |
| - Design Assessment | 285 | 0 | 0 |
| - Technical Assessment/Comparison | 0 | 225 | 0 |
| - Program Documentation/MS B | 0 | 220 | 0 |
| - Fabricate DT/LUT Hardware | 0 | 425 | 0 |
| - Technical Test | 0 | 0 | 125 |
| - Limited User Test | 0 | 0 | 240 |
| - Independent Assessment/Test Reports | 0 | 0 | 125 |
| - Prepare Program Doc/MS C | 0 | 0 | 115 |
| Platform Integration of Crew Served Weapons - FY05 New Start | 0 | 0 | 0 |
| - Market Research/Market Survey | 0 | 0 | 100 |
| - In House Design | 0 | 0 | 150 |
| - Prototype Production | 0 | 0 | 150 |
| - Preliminary Testing | 0 | 0 | 50 |
| - Design Improvement | 0 | 0 | 70 |
| - Manufacturing | 0 | 0 | 100 |
| - Tech testing | 0 | 0 | 200 |
| Aviation Variant (M240) - Ongoing | 0 | 0 | 0 |
| - Fabricate Prototype Weapons | 525 | 0 | 0 |
| - Design/Qualify Pintle Mods | 625 | 0 | 0 |
| - Prepare Program Doc | 200 | 0 | 0 |
| - Fabricate Pintles/Test Hardware | 325 | 0 | 0 |
| - Engineering Tests | 910 | 0 | 0 |
| - Technical Testing | 0 | 150 | 0 |
| - Limited User Test | 0 | 1050 | 0 |
| - Evaluation Reports | 0 | 250 | 0 |

| Accomplishments/Planned Program (continued) | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| - Prepare Prog Doc/MS C | 0 | 275 | 0 |
| - Production Planning | 0 | 75 | 0 |
| Rifle Carbine Improvement Block II - Ongoing | 0 | 0 | 0 |
| - Draft Requirements | 66 | 0 | 0 |
| - Analysis of Commercial Items | 262 | 0 | 0 |
| - Purchase Order/Hardware | 119 | 0 | 0 |
| - Prepare/Staff Procurement Package | 0 | 329 | 0 |
| - Evaluate/Downselect | 0 | 200 | 0 |
| - Competitive Contractor Selection/Award | 0 | 0 | 288 |
| - Engineering Support | 0 | 0 | 464 |
| - DT/OT/Evaluation | 0 | 0 | 1931 |
| Thermobaric Cartridges - Ongoing | 0 | 0 | 0 |
| - Prototype Design | 289 | 0 | 0 |
| - Prototype Fabrication | 625 | 0 | 0 |
| - Engineering Tests | 350 | 0 | 0 |
| - Contract Award | 90 | 0 | 0 |
| - Redesign | 125 | 0 | 0 |
| - Safety Testing | 340 | 0 | 0 |
| - Urgent Materiel Release | 135 | 100 | 0 |
| - Fabricate Prototypes | 0 | 377 | 0 |
| - Engineering Tests | 0 | 220 | 0 |
| - Design Review | 0 | 20 | 0 |
| - Contract Option Award | 0 | 100 | 0 |
| - Design Optimization | 0 | 130 | 300 |
| - Fabricate PPQT Quantity | 0 | 0 | 175 |
| - DT/OT | 0 | 0 | 770 |
| - FHC Testing | 0 | 0 | 135 |
| - IM Testing | 0 | 0 | 210 |
| - Live Fire Testing | 0 | 0 | 210 |
| - System Evaluation Report | 0 | 0 | 50 |
| M240 Aviation Variant (High Cap Feed System) - FY05 New Start | 0 | 0 | 0 |
| - Engineering Development | 0 | 0 | 300 |
| - Technical Assessment | 0 | 0 | 225 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| - Award Development Contract | 0 | 0 | 295 |
| - Hardware Fabrication | 0 | 0 | 400 |
| - Technical Qualification Test | 0 | 0 | 625 |
| - Finalize Design | 0 | 0 | 275 |
| - Limited User Evaluation | 0 | 0 | 550 |
| - Production Decision Documentation | 0 | 0 | 330 |
| 5.56MM LT WT Ammo - FY05 New Start | 0 | 0 | 0 |
| - Market Survey/Program Documentation | 0 | 0 | 150 |
| - MS B | 0 | 0 | 50 |
| - Prepare RFP | 0 | 0 | 200 |
| - Bid Sample Testing | 0 | 0 | 300 |
| - Source Selection | 0 | 0 | 257 |
| "Small Business Innovative Research/Small Business Technology Transfer" | 0 | 288 | 0 |
| Totals | 8389 | 8384 | 11373 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| WTCV, GZ1290, Squad Auto Wpn (MODS) | 11658 | 5473 | 3382 | 1300 | 5006 | 11192 | 4074 | 0 | 46457 |
| WTCV, GZ2800, M16 Rifle MODS | 0 | 2351 | 2345 | 2045 | 0 | 3904 | 0 | 0 | 12730 |
| WTCV, GB3000, MK19 MODS | 2847 | 3816 | 4236 | 4834 | 3277 | 6421 | 8749 | 0 | 35214 |
| WTCV, GZ1300, Med MG (MODS) | 1289 | 3922 | 3409 | 3312 | 4915 | 13823 | 0 | 0 | 31406 |
| WTCV, GB3007, M4 Carbine MODS | 33272 | 22907 | 13777 | 10270 | 10642 | 10103 | 2770 | 0 | 103741 |

**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(R3)

**February 2004**

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 | 2930 | 1-4Q | 1616 | 1-4Q | 1279 | 1-4Q | Continue | 17360 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 11535 | 2930 | | 1616 | | 1279 | | Continue | 17360 | 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 | 2011 | 1-4Q | 1821 | 1-4Q | 2535 | 1-4Q | 0 | 12805 | 0 |
| b . Logistics | MIPR | TACOM, Rock Island, IL | 523 | 150 | 1-4Q | 175 | 1-4Q | 550 | 1-4Q | 0 | 1398 | 0 |
| c . Human Research and Eng Directorate | MIPR | APG, MD | 885 | 628 | 1-4Q | 424 | 1-4Q | 615 | 1-4Q | 0 | 2552 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7846 | 2789 | | 2420 | | 3700 | | 0 | 16755 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 664 | 1-4Q | 1325 | 1-4Q | 1765 | 1-4Q | Continue | 7645 | 0 |
| b . OT | MIPR | AEC, Alexandria, VA | 190 | 169 | 1-4Q | 1185 | 1-4Q | 1380 | 1-4Q | 0 | 2924 | 0 |
| c . Validation testing | MIPR | DTC, APG, MD | 233 | 658 | 1-4Q | 430 | 1-4Q | 1795 | 1-4Q | 0 | 3116 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4314 | 1491 | | 2940 | | 4940 | | Continue | 13685 | 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, Picatinny Arsenal, NJ | 1812 | 1119 | 1-4Q | 1318 | 1-4Q | 1314 | 1-4Q | 0 | 5563 | 0 |
| b . Travel | In House | PM Soldier Weapons, Picatinny Arsenal, NJ | 142 | 60 | 1-4Q | 90 | 1-4Q | 140 | 1-4Q | 0 | 432 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1954 | 1179 | | 1408 | | 1454 | | 0 | 5995 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 25649 | 8389 | | 8384 | | 11373 | | Continue | 53795 | 0 |

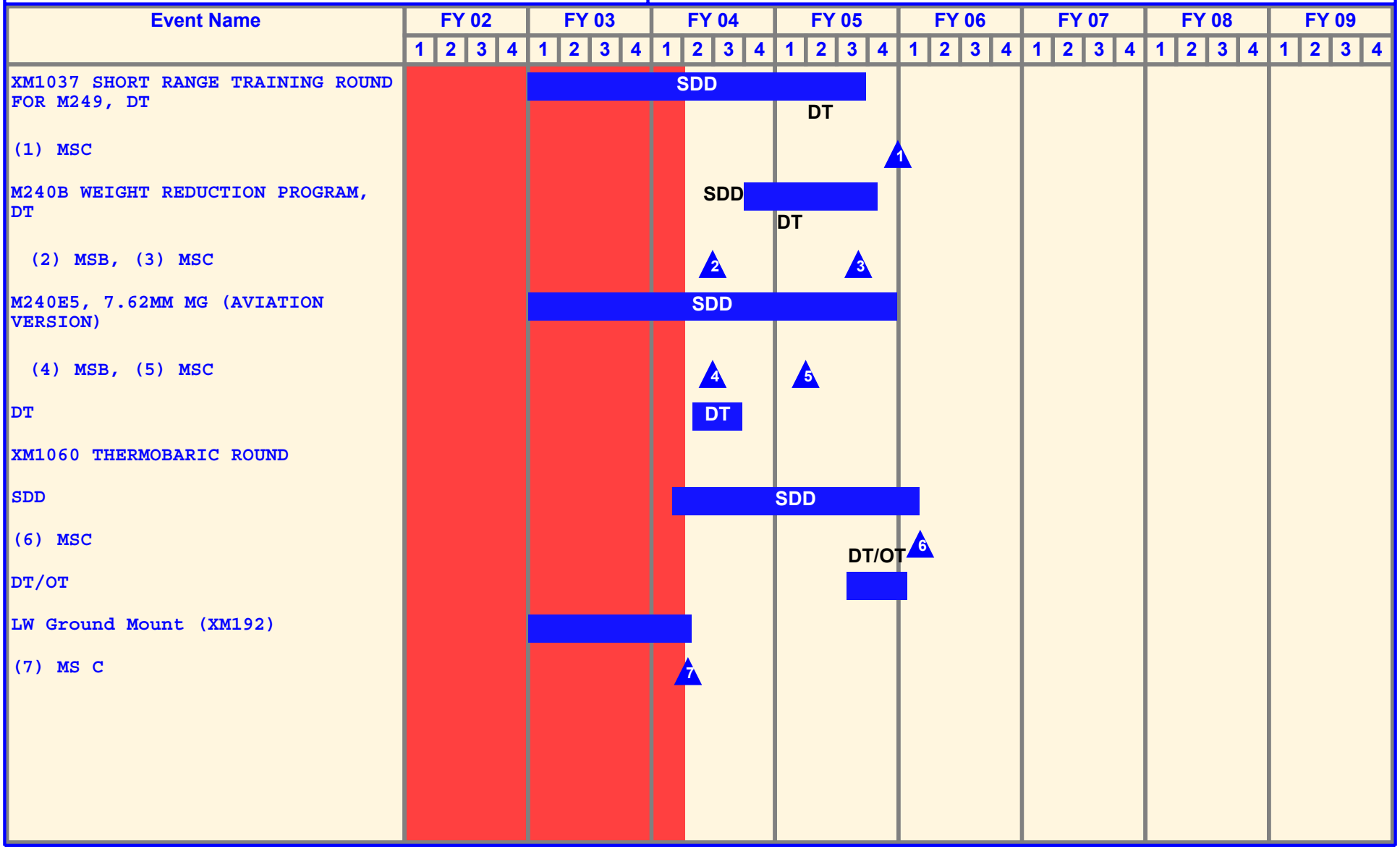
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Lightweight Ground Mount (XM192) | | | | | | | |
| - Technical Testing | 1-2Q | | | | | | |
| - Operational Testing | 3Q | | | | | | |
| - Complete Hardware Modifications | 4Q | | | | | | |
| - Independent Evaluation (FY03 Carryover) | | 1Q | | | | | |
| - MS C (FY03 Carryover) | | 2Q | | | | | |
| M249 200-RD Ammo Pack/Mount Investigation | | | | | | | |
| - Engineering Development | | 3Q | | | | | |
| - Technical Assessment | | 4Q | | | | | |
| - Award Development Contract | | 4Q | | | | | |
| - Hardware Fabrication (FY04 Carryover) | | 4Q | 1Q | | | | |
| - Technical Test | | | 1-2Q | | | | |
| - User Assessment | | | 1-2Q | | | | |
| - Design Qualification | | | 3Q | | | | |
| M249 Machine Gun Barrel Life Ext Pgm | | | | | | | |
| - Fabricate Pre-Production Hardware | 2-3Q | | | | | | |
| - Test Pre-Production Hardware | 3-4Q | | | | | | |
| - Complete Final Report (FY03 Carryover) | | 1Q | | | | | |
| M249 Short Range Training Ammunition | | | | | | | |
| - Engineering Development | 1-2Q | | | | | | |
| - Technical Assessment | 3-4Q | | | | | | |
| - Design Finalization (FY03 Carryover) | 4Q | 1Q | | | | | |
| - Manufacture Prototypes | | 1Q | | | | | |
| - Conduct Development Tests | | 2-3Q | | | | | |
| - Engineering Analysis | | 3Q | | | | | |
| - Manufacture PPQT Samples | | 4Q | | | | | |
| - DT | | | 1-2Q | | | | |
| - Safety Confirmation | | | 2Q | | | | |
| - Limited User Test | | | 2Q | | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| - System Evaluation Report | | | 3Q | | | | |
| - MS C | | | 4Q | | | | |
| XM116 Sight, Computerized, SAFC | | | | | | | |
| - Engineering Development | | 1-2Q | | | | | |
| - Technical Testing | | 2-4Q | | | | | |
| - User Assessment (FY04 Carryover) | | 4Q | 1Q | | | | |
| - Test Reports/Evaluations (FY04 Carryover) | | | 1Q | | | | |
| - Prepare MS-C Documentation/LRP Decision (FY04 Carryover) | | | 1-2Q | | | | |
| MK19 Self-Destruct Cartridge | | | | | | | |
| - Prepare Program Doc/MS B | 2Q | | | | | | |
| - Solicitation | 2Q | | | | | | |
| - Bid Sample Test and Evaluation (FY03 Carryover) | | 1Q | | | | | |
| - Contract Award (FY03 Carryover) | | 2Q | | | | | |
| - Manufacture PPQ Quantity (FY04 Carryover) | | | 1-2Q | | | | |
| - DT (FY04 Carryover) | | | 2-3Q | | | | |
| - OT/LFT (FY04 Carryover) | | | 2-3Q | | | | |
| - System Evaluation Report (FY05 Carryover) | | 4Q | 1Q | | | | |
| - Prepare MS C IPR Package (FY05 Carryover) | | | 2Q | | | | |
| - MS C (FY05 Carryover) | | | 2Q | | | | |
| Medium Machine Gun Weight Reduction/Mount | | | | | | | |
| - Engineering Tests | 2-4Q | | | | | | |
| - Award Contract | 3Q | | | | | | |
| - Finalize Design | 4Q | | | | | | |
| - Design Assessment | 2-3Q | | | | | | |
| - Technical Assessment/Comparison | | 2-3Q | | | | | |
| - Program Documentation/MS B | | 2-3Q | | | | | |
| - Fabricate DT/LUT Hardware (FY03 Carryover) | | 4Q | 1Q | | | | |
| - Technical Test | | | 1-2Q | | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| - Limited User Test | | | 2Q | | | | |
| - Independent Assessment/Test Reports | | | 2-3Q | | | | |
| - Prepare Program Doc/MS C | | | 4Q | | | | |
| Platform Integration of Crew Served Weapons | | | | | | | |
| - Market Research/Market Survey | | | 1Q | | | | |
| - In House Design | | | 1-2Q | | | | |
| - Prototype Production | | | 2Q | | | | |
| - Preliminary Testing | | | 2-3Q | | | | |
| - Design Improvement | | | 3Q | | | | |
| - Manufacturing | | | 3-4Q | | | | |
| - Tech Testinging (FY05 Carryover) | | | 4Q | 1Q | | | |
| - Tech Test | | | | 1Q | | | |
| - Safety Cert | | | | 1Q | | | |
| - IPR | | | | 1Q | | | |
| - Market Survey/Market Research | | | | 1Q | | | |
| - Prototype Production | | | | 3Q | | | |
| - Validation Testing | | | | 3Q | | | |
| - Manufacture | | | | 4Q | | | |
| - Tech Testing (FY06 Carryover) | | | | | 1Q | | |
| - Tech Test | | | | | 1Q | | |
| - Operational Test | | | | | 1Q | | |
| - Safety Release | | | | | 2Q | | |
| - IPR | | | | | 2Q | | |
| - Market Survey/Market Research | | | | | 1Q | | |
| - In House Design | | | | | 1-2Q | | |
| - Prototypes | | | | | 2Q | | |
| - Prel Testing | | | | | 2Q | | |
| - Manufacturing | | | | | 3Q | | |
| - Tech Test | | | | | 3-4Q | | |
| - Operational Test | | | | | 4Q | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| - Safety Release | | | | | | 1Q | |
| - IPR | | | | | | 1Q | |
| - Survey | | | | | | 1Q | |
| - In House Design | | | | | | 2Q | |
| - Prototype Production | | | | | | 2Q | |
| - Val Test | | | | | | 2-3Q | |
| - Redesign | | | | | | 3Q | |
| - Manufacturing | | | | | | 3Q | |
| - Tech Test | | | | | | 4Q | |
| - Operational Test | | | | | | | 1Q |
| - Safety Release | | | | | | | 2Q |
| - IPR | | | | | | | 2Q |
| Aviation Variant (M240) | | | | | | | |
| - Mount Concept | 1-3Q | | | | | | |
| - Fabricate Prototype Weapons (FY03 Carryover) | 2-4Q | 1Q | | | | | |
| - Design/Qualify Pintle Mods (FY03 Carryover) | | 1Q | | | | | |
| - Program Documentation (FY03 Carryover) | | 2Q | | | | | |
| - Fab Pintles/Test H/W (FY03 Carryover) | 4Q | 1-2Q | | | | | |
| - Engineering Tests (FY03 Carryover) | 4Q | 1-2Q | | | | | |
| - Technical Testing | | 2Q | | | | | |
| - Limited User Test | | 4Q | | | | | |
| - Evaluation Reports | | 4Q | | | | | |
| - Prepare Program Doc /MS C (FY04 Carryover) | | 4Q | 1Q | | | | |
| - Production Planning (FY04 Carryover) | | 4Q | 1Q | | | | |
| Rifle Carbine Improvement Block II | | | | | | | |
| - Draft Requirements | 3Q | | | | | | |
| - Analysis of Commercial Items | 1-4Q | | | | | | |
| - Purchase Order/Hardware | 4Q | | | | | | |
| - Prepare/Staff Procurement Package | | 2Q | | | | | |
| - Evaluate/Downselect | | 3-4Q | | | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **AS1** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| - Competitive Contractor Selection/Award | | | 1Q | | | | |
| - Engineering Support | | | 2-4Q | | | | |
| - DT/OT/Evaluation | | | 4Q | | | | |
| - Independent Evaluation | | | | 1Q | | | |
| - Prepare/Staff Procurement Decision | | | | 1-2Q | | | |
| Thermobaric Cartridges | | | | | | | |
| - Prototype Design | 1-2Q | | | | | | |
| - Prototype Fabrication | 2Q | | | | | | |
| - Engineering Tests | 2Q | | | | | | |
| - Contract Award | 2Q | | | | | | |
| - Redesign | 2Q | | | | | | |
| - Safety Testing | 2-3Q | | | | | | |
| - Urgent Materiel Release | 4Q | | | | | | |
| - Fabricate Prototypes | | 1Q | | | | | |
| - Design Review | | 3Q | | | | | |
| - Contract Option Award | | 4Q | | | | | |
| - Design Optimization | | 4Q | 1Q | | | | |
| - Fabricate PPQT Quantity | | | 2-3Q | | | | |
| - DT/OT | | | 3-4Q | | | | |
| - FHC Testing | | | 3Q | | | | |
| - IM Testing | | | 3-4Q | | | | |
| - Live Fire Testing | | | 3-4Q | | | | |
| - System Evaluation Report | | | 4Q | | | | |
| - MS C | | | | 1Q | | | |
| M240 Aviation Variant (High Cap Feed System) | | | | | | | |
| - Engineering Development | | | 1-2Q | | | | |
| - Technical Assessment | | | 1Q | | | | |
| - Award Development Contract | | | 2Q | | | | |
| - Hardware Fabrication | | | 2-4Q | | | | |
| - Tech Qual Test (FY05 Carryover) | | | | 1Q | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**AS1**

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| - Finalize Design (FY05 Carryover) | | | | 2Q | | | |
| - Limited User Evaluation (FY05 Carryover) | | | | 2-3Q | | | |
| - Prod Decision Doc (FY05 Carryover) | | | | 4Q | | | |
| 5.56MM LT WT Ammo | | | | | | | |
| - Market Survey/Program Documentation | | | 1Q | | | | |
| - MS B | | | 2Q | | | | |
| - Prepare RFP | | | 1-2Q | | | | |
| - Bid Sample Testing | | | 3Q | | | | |
| - Source Selection | | | 3-4Q | | | | |
| - Contract Award | | | | 1Q | | | |
| - Design Prototypes | | | | 1-2Q | | | |
| - Design Review | | | | 3Q | 2Q | | |
| - Sample Fabrication | | | | 3-4Q | | | |
| - Lethality Test | | | | 4Q | | | |
| - Reliability Test | | | | 4Q | | | |
| - DT I | | | | | 1Q | | |
| - Manufacture DT II Qty | | | | | 3-4Q | | |
| - DT II | | | | | | 1-2Q | |
| - LFT & FHC Test | | | | | | 3-4Q | |
| - LUT | | | | | | 4Q | |
| - Prepare MS C IPR Package | | | | | | 4Q | 1Q |
| - MS C | | | | | | | 2Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **S23** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 1675 | 37417 | 65879 | 36311 | 28721 | 0 | 0 | 0 | 170003 |

**A. Mission Description and Budget Item Justification:** Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is the initial kinetic energy component of Integrated Air & Missile Defense (IAMD), an Air and Missile Defense (AMD) Future 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 (Enhanced Target Range and Classification) Sensor, other external Sensors, and an Integrated Fire Control Station (IFCS). SLAMRAAM is a lightweight, day or night, adverse weather, non-line-of-sight (NLOS) fire unit for countering cruise missile (CM), low altitude rotary wing (RW), fixed wing (FW), 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 Future Force transformation path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Product Development | 0 | 24544 | 46599 |
| Support Cost | 0 | 2555 | 3438 |
| Test and Evaluation | 0 | 5225 | 8041 |
| Management Services | 1675 | 4047 | 7801 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) | 0 | 1046 | 0 |
| Totals | 1675 | 37417 | 65879 |

| B. Other Program Funding Summary | 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 | 7397 | 2449 | 36001 | 44352 | 29552 | 0 | 0 | 119751 |

**C. Acquisition Strategy:** System Development and Demonstration (SDD) contract award is scheduled for 2nd Quarter FY04. SDD will be a 41 month effort, culminated by completion of IOT&E in 2nd Qtr FY07. A contingency capability (FUE Battery) will be fielded in FY06 with Initial Operational Capability (IOC) available in FY08.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Hardware/Software Development | CPIF | TBD | 0 | 0 | | 18332 | 1Q | 41385 | 1Q | 33040 | 92757 | 0 |
| b . Government Prototype Manufacturing (GFE) | MIPR | TBD | 0 | 0 | | 6170 | 1Q | 5214 | 1Q | 0 | 11384 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 24502 | | 46599 | | 33040 | 104141 | 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 Support Costs | CPIF | TBD | 0 | 0 | | 2555 | 1Q | 3438 | 1Q | 2004 | 7997 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2555 | | 3438 | | 2004 | 7997 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604802A - Weapons and Munitions - Eng Dev**

PROJECT
**S23**

| 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 . Contractor System Test & Evaluation | CPIF | TBD | 0 | 0 | | 419 | 1Q | 861 | 1Q | 3389 | 4669 | 0 |
| b . Government System Test & Evaluation | MIPR | TBD | 0 | 0 | | 1256 | 1Q | 3880 | 1Q | 13809 | 18945 | 0 |
| c . Government Modeling & Simulation | | TBD | 0 | 0 | | 3550 | 1Q | 3300 | 1Q | 5750 | 12600 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 5225 | | 8041 | | 22948 | 36214 | 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 SE/PM | CPIF | TBD | 0 | 0 | | 1762 | 1Q | 2004 | 1Q | 1539 | 5305 | 0 |
| b . Government SE/PM | | SHORAD PO, Huntsville, AL | 0 | 1675 | | 3373 | 1Q | 5797 | 1Q | 5501 | 16346 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1675 | | 5135 | | 7801 | | 7040 | 21651 | 0 |

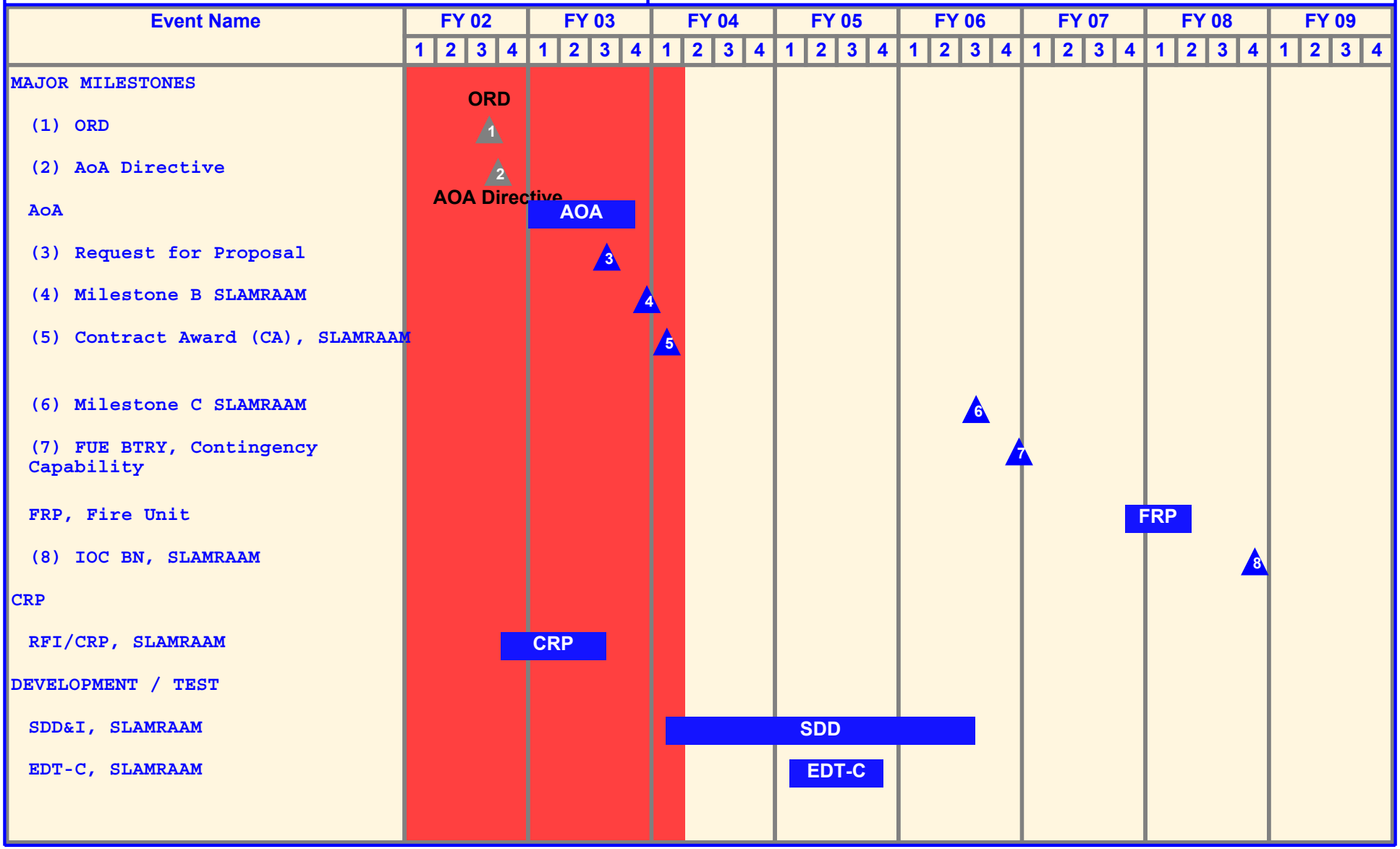
Remarks: Government Modeling & Simulation included in Test & Evaluation.

| Project Total Cost: | | | 0 | 1675 | | 37417 | | 65879 | | 65032 | 170003 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604802A - Weapons and Munitions - Eng Dev | S23 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604802A - Weapons and Munitions - Eng Dev** | **S23** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Operational Requirements Document (ORD) Approved | | | | | | | |
| Analysis of Alternatives (AOA) Directive | | | | | | | |
| AoA | 1-4Q | | | | | | |
| Request for Proposal | 3Q | | | | | | |
| Milestone B | 4Q | | | | | | |
| Contract Award | | 2Q | | | | | |
| Milestone C | | | | 3Q | | | |
| FUE Btry, Contingency Capability | | | | 4Q | | | |
| Full Rate Production | | | | | 4Q | 1-2Q | |
| IOC, BN | | | | | | 4Q | |
| Request for Information (RFI) / Contract Requirements Package (CRP) | 1-3Q | | | | | | |
| SDD&I | | 1-4Q | 1-4Q | 1-4Q | | | |
| EDT-C | | | 1-3Q | | | | |
| EDT-G | | | 3-4Q | 1Q | | | |
| FDE | | | | 1Q | | | |
| LUT | | | | 2Q | | | |
| FDT | | | | 4Q | 1Q | | |
| IOT | | | | | 2Q | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 56101 | 87471 | 89151 | 38534 | 45332 | 46789 | 55043 | Continuing | Continuing |
| 194 | ENGINE DRIVEN GEN ED | 7293 | 7272 | 5454 | 7625 | 9541 | 2716 | 3337 | Continuing | Continuing |
| 461 | MARINE ORIEN LOG EQ ED | 30002 | 61280 | 65380 | 3323 | 5155 | 5147 | 2982 | Continuing | Continuing |
| H01 | COMBAT ENGINEER EQ ED | 5653 | 4146 | 4231 | 4635 | 4717 | 3288 | 3181 | Continuing | Continuing |
| H02 | TACTICAL BRIDGING - ENGINEERING DEVELOPMENT | 1020 | 1925 | 2479 | 2973 | 2809 | 9092 | 21803 | Continuing | Continuing |
| H14 | MATERIALS HANDLING EQUIPMENT - ED | 493 | 488 | 0 | 496 | 495 | 495 | 495 | Continuing | Continuing |
| L39 | FIELD SUSTAINMENT SUPPORT ED | 981 | 8326 | 4606 | 9820 | 11691 | 14541 | 11074 | Continuing | Continuing |
| L41 | WATER AND PETROLEUM DISTRIBUTION - ED | 7468 | 1672 | 3063 | 5574 | 7199 | 3580 | 3651 | Continuing | Continuing |
| L42 | CAMOUFLAGE SYSTEM ED | 329 | 660 | 1603 | 1638 | 1155 | 1870 | 1723 | Continuing | Continuing |
| L43 | ENGINEER SUPPORT EQUIPMENT - ED | 2862 | 1214 | 1154 | 1172 | 1192 | 4683 | 5371 | Continuing | Continuing |
| L46 | MAINTENANCE SUPPORT EQUIPMENT | 0 | 488 | 1181 | 1278 | 1378 | 1377 | 1426 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This Program Element (PE) provides system development and demonstration for various projects. This PE includes the development of military tactical bridging, material handling equipment, construction equipment, engineer support equipment, soldier support equipment (to include shelter systems, environmental control, field service equipment, camouflage systems and aerial delivery equipment), water purification equipment, petroleum distribution equipment, mobile electric power and water craft.

This project supports the Stryker Brigade Combat Team (SBCT), the Current-to-Future Force and the Future Force transition paths of the Army's Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 64808 | 86288 | 88153 |
| Current Budget (FY 2005 PB) | 56101 | 87471 | 89151 |
| Total Adjustments | -8707 | 1183 | 998 |
| Congressional program reductions | | -917 | |
| Congressional rescissions | -372 | | |
| Congressional increases | 1143 | 2100 | |
| Reprogrammings | -7658 | | |
| SBIR/STTR Transfer | -1820 | | |
| Adjustments to Budget Years | | | 998 |

FY04 & FY05 increases provided by the Army support of higher Army priorities.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **194** |

| COST (In Thousands) | FY 2003 Actual | 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 | 7293 | 7272 | 5454 | 7625 | 9541 | 2716 | 3337 | 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 Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continued hardware system development and testing for 100/200kW TQG. | 200 | 0 | 0 |
| Completed testing and began transition of 100/200kW TQG to production and deployment. | 3067 | 200 | 0 |
| Evaluated commercially available components for application to Advanced Medium Mobile Power Sources (AMMPS). | 1626 | 0 | 0 |
| Completed Performance Specification and MS B IPR package for AMMPS. | 300 | 0 | 0 |
| Award two or more Phase I contracts for AMMPS and conduct Phase I testing. | 0 | 4804 | 1919 |
| Award Phase II contract option for AMMPS. | 0 | 0 | 3535 |
| Initiated 2kW Improvement Program for noise and weight reduction | 2100 | 0 | 0 |
| Initiate Follow-on 2kW Improvement Program | 0 | 2081 | 0 |
| Small Business Innovative Research / SmallBusiness Technology Transfer Programs | 0 | 187 | 0 |
| Totals | 7293 | 7272 | 5454 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **194** |

| **B. Other Program Funding Summary** | 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 | 1481 | 1484 | 1510 | 2879 | 2495 | 3072 | 3257 | Continuing | Continuing |
| OPA3, MA9800 Generators and Associated Equipment | 76088 | 72418 | 54397 | 49681 | 50191 | 50667 | 50850 | Continuing | Continuing |

**C. Acquisition Strategy:** Developmental items in this project will transition into procurement.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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) | Various | Various | 4251 | 779 | 2Q | 4054 | 3Q | 4334 | 3Q | Continue | 13418 | 0 |
| c . 2kW Improvement Program (Noise & Weight Reduction | C-FFP | Dewey Electronics, Oakland, NJ | 0 | 1785 | 4Q | 0 | | 0 | | Continue | Continue | 0 |
| d . Follow-on 2kW Improvement Program | Various | Various | 0 | 0 | | 1766 | 3Q | 0 | | Continue | 1766 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12869 | 2764 | | 5820 | | 4334 | | 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 | 200 | 1Q | Continue | Continue | 0 |
| c . 2kW Improvement Program (Noise & Weight Reduction( | In-house | CECOM, Ft Belvoir, VA | 0 | 65 | 2Q | 0 | | 0 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**

| 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 . Follow-on 2kW Improvement Program | In-house | CECOM, Ft Belvoir, VA | 0 | 0 | | 65 | 2Q | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2410 | 515 | | 515 | | 200 | | 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 . 100/200kW | MIPR | Aberdeen Proving Ground, MD | 2190 | 2567 | 1Q | 0 | | 0 | | Continue | 4757 | 0 |
| b . AMMPS(5-60kW) | Various | Various | 230 | 697 | 2Q | 0 | | 520 | 2Q | Continue | Continue | 0 |
| c . 2kW Improvement Program (Noise & Weight Reduction) | MIPR | CECOM, Fort Belvoir, VA | 0 | 250 | 4Q | 0 | | 0 | | Continue | Continue | 0 |
| d . Follow-on 2kW Improvement Program | MIPR | CECOM, Ft Beloir, VA | 0 | 0 | | 250 | 2Q | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2420 | 3514 | | 250 | | 520 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**

| 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 | 400 | 1Q | Continue | Continue | 0 |
| c . SIBR / STTR | | | 0 | 0 | 1Q | 187 | | 0 | | 0 | 187 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1679 | 500 | | 687 | | 400 | | Continue | Continue | 0 |
| Project Total Cost: | | | 19378 | 7293 | | 7272 | | 5454 | | Continue | Continue | 0 |

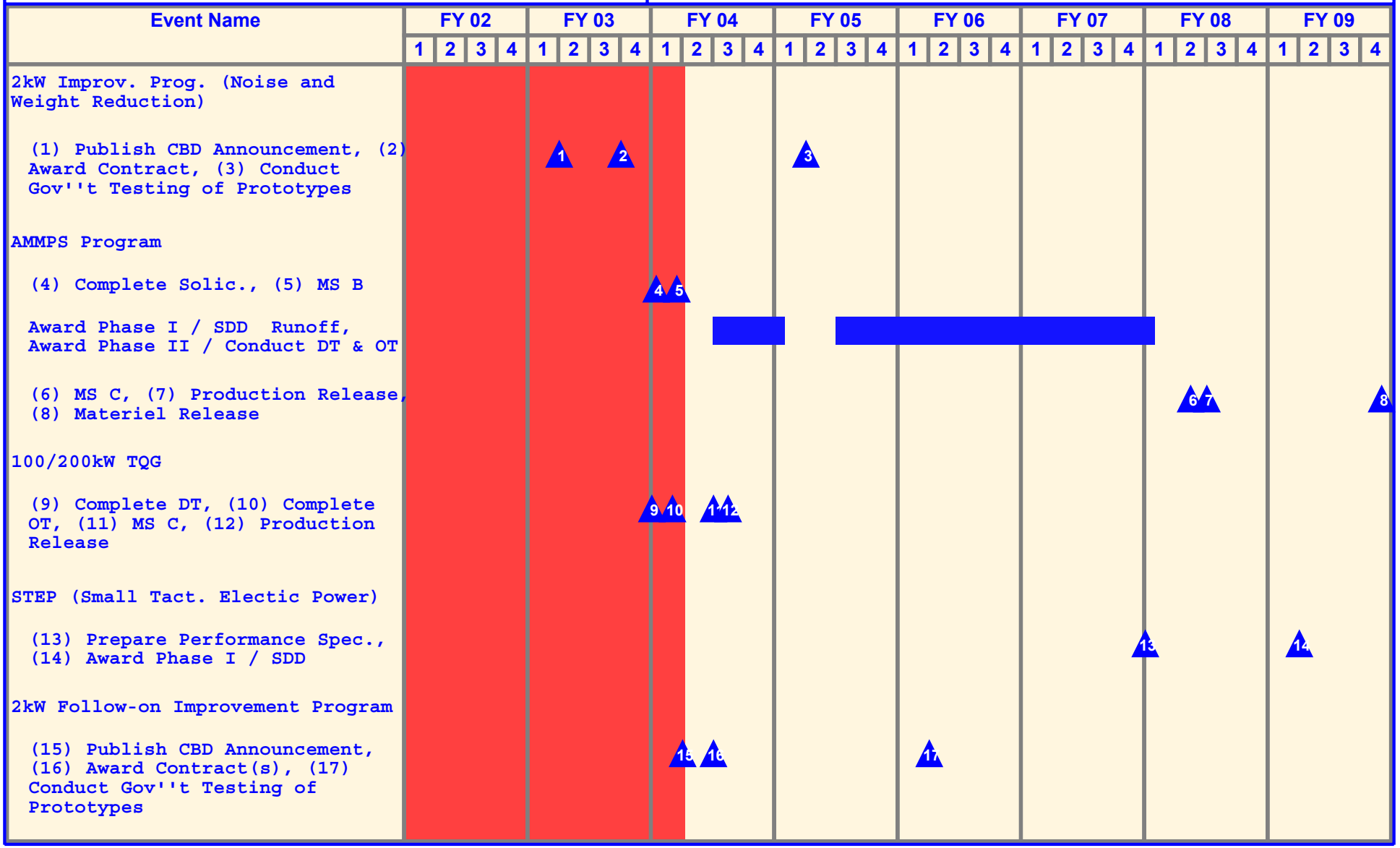
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**194**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **194** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Published CBD Announcement requesting White Papers for 2kW Improvement Program | 2Q | | | | | | |
| Awarded 2kW Improvement Program contract | 4Q | | | | | | |
| Complete 100/200kW TQG Developmental Test | | 1Q | | | | | |
| Complete solicitation package for AMMPS | | 1Q | | | | | |
| Complete 100/200kW TQG Operational Test | | 1Q | | | | | |
| AMMPS Milestone B | | 1Q | | | | | |
| Publish CBD Announcement requesting White Papers for Follow-on 2kW Improvement Program | | 2Q | | | | | |
| Award Follow-on 2kW Improvement Program contract(s) | | 3Q | | | | | |
| 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 | | | | |
| Conduct Government testing of prototypes of 2kW Improvement Program (Noise & Weight Reduction) | | | 2Q | | | | |
| Award Phase II contract for AMMPS family | | | 3Q | | | | |
| Conduct Government testing of prototypes of Follow-on 2kW Improvement Program | | | | 2Q | | | |
| Initiate DT and OT for AMMPS (Phase II Testing) | | | | 3Q | | | |
| Begin preparation of Performance Specification for Man Portable Power Program | | | | | | 1Q | |
| Complete testing of Phase II AMMPS and prepare Milestone C package | | | | | | 2Q | |
| Transition AMMPS to Procurement (Milestone C) - Production Release | | | | | | 2Q | |
| Award STEP Phase I contracts | | | | | | | 2Q |
| AMMPS Material Release | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **461** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 30002 | 61280 | 65380 | 3323 | 5155 | 5147 | 2982 | Continuing | Continuing |

**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, and 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 and beginning in FY05, the development of a TSV RDTE "First in Class" vessel.

These systems support the Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| TSV test program. | 16412 | 38855 | 0 |
| Army support for the HSV Lease. | 1938 | 9000 | 0 |
| Army support for the TSV Lease. | 11652 | 11653 | 0 |
| Army support for R&D Vessel | 0 | 0 | 65380 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 1772 | 0 |
| Totals | 30002 | 61280 | 65380 |

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

**February 2004**

| 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 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 | 6443 | 4707 | 296 | 296 | 297 | 297 | 296 | Continuing | Continuing |
| OPA 3, M11200, Logistic Support Vessel (LSV) | 10800 | 2978 | 0 | 0 | 0 | 0 | 0 | 0 | 39595 |
| OPA 3, M11203, Theatre Support Vessel (TSV) | 0 | 0 | 0 | 33177 | 42714 | 356529 | 373837 | Continuing | Continuing |

**C. Acquisition Strategy:** The TSV Acquisition Strategy calls for evolutionary development of commercially based technology with military adaptations. TSV will be acquired competitively and production will be based in the United States. The Army will begin development of a "First in Class" TSV RDTE vessel with FY05 RDTE funding and development will be completed using FY06-FY07 RDTE funding. The FY05 buget request reflects a change in the TSV acquisition strategy in that an RDTE vessel will be acquired and the Army will no longer rely on leased vessels. The current HSV-X1 and TSV-1X RDTE leases will expire at the end of FY04. Currently fielded Logistics Support Vessels (LSV) will remain the only Army intra-theater capability until TSV is fielded. The Army is currently developing a TSV Memorandum of Agreement with the Marine Corps to accomodate emerging Marine Corps requirements. Additional there is interest from other allies such as the UK.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1045 | 1-3Q | 2000 | 2-3Q | 0 | | Continue | 4828 | 0 |
| b . HSV Lease(ARMY portion) | Competitive FFP/Requirements Type Contract | Bollinger/INCAT | 3931 | 1938 | 1-2Q | 9000 | 1Q | 0 | | 0 | 14869 | Continue |
| c . TSV-X1 Lease | Competitive Fixed Price Contract | Bolllinger/INCAT | 0 | 11652 | 1Q | 11653 | 1Q | 0 | | 0 | 23305 | Continue |
| d . TSV/HSV Modifications | PWD | TBD | 5021 | 10130 | 1-3Q | 2000 | | 0 | | 0 | 17151 | Continue |
| e . TSV/HSV Operations/Demonstration | | | 0 | 3800 | 1-3Q | 22127 | 1-3Q | 0 | | 0 | 25927 | 0 |
| f . HSV Cargo Handling | MIPR | TBD | 0 | 0 | | 5200 | 2Q | 0 | | 0 | 5200 | 0 |
| g . TSV C4I | MIPR | TBD | 0 | 0 | | 5800 | 2-3Q | 0 | | 0 | 5800 | 0 |
| h . TSV Helo Operations | MIPR | Ft. Rucker, Alabama | 0 | 0 | | 1000 | 2-3Q | 0 | | 0 | 1000 | 0 |
| i . R&D Vessel | PWD | TBD | 0 | 0 | | 0 | | 60734 | 1-2Q | 0 | 60734 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**

| 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: | | | 10735 | 28565 | | 58780 | | 60734 | | Continue | 158814 | Continue |

Remarks: Item D: FY04 $2M for Self Protection

| 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 Safety Office | 0 | 15 | 2Q | 50 | 2-3Q | 0 | | Continue | 65 | 0 |
| b . TSV | MIPR | DRM, Ft Eustis | 90 | 0 | | 0 | | 0 | | 0 | 90 | 0 |
| c . TSV | MIPR | NSWC, West Bethesda, MD | 100 | 0 | | 0 | | 0 | | 0 | 100 | 0 |
| d . TSV/Matrix Support | MIPR | TACOM, Environmental | 0 | 130 | 2Q | 0 | | 0 | | 0 | 130 | 0 |
| e . R&D Vessel/Matrix Support | MIPR | TACOM Safety Office | 0 | 0 | | 0 | | 70 | 2-3Q | Continue | 70 | 0 |
| f . R&D Vessel/Matrix Support | MIPR | TACOM, Environmental | 0 | 0 | | 0 | | 125 | 2Q | 0 | 125 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 190 | 145 | | 50 | | 195 | | Continue | 580 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 0 | | 0 | | 0 | | 0 | 50 | 730 |
| b . TSV/Matrix Support | MIPR | LCCE, TACOM, Warren | 0 | 83 | 2-3Q | 50 | 2-3Q | 0 | | Continue | 133 | 0 |
| c . TSV | PWD | Tirrenia, Napoli, Italy | 0 | 437 | 2Q | 0 | | 0 | | 0 | 437 | 0 |
| d . R&D Vessel/Matrix | MIPR | LCCE, TACOM, Warren | 0 | 0 | | 0 | | 166 | 2-3Q | Continue | 166 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 50 | 520 | | 50 | | 166 | | Continue | 786 | 730 |

| 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 | 0 | | 0 | | 0 | | 0 | 212 | 0 |
| b . TSV/In-house | MIPR | PM TSV, Warren, MI | 0 | 772 | 1-4Q | 2400 | 2-3Q | 0 | | Continue | 3172 | 0 |
| c . R&D Vessel/In-house | MIPR | PM TSV, Warren, MI | 0 | 0 | | 0 | | 4285 | 1-2Q | Continue | 4285 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 772 | | 2400 | | 4285 | | Continue | 7669 | 0 |
| Project Total Cost: | | | 11187 | 30002 | | 61280 | | 65380 | | Continue | 167849 | Continue |

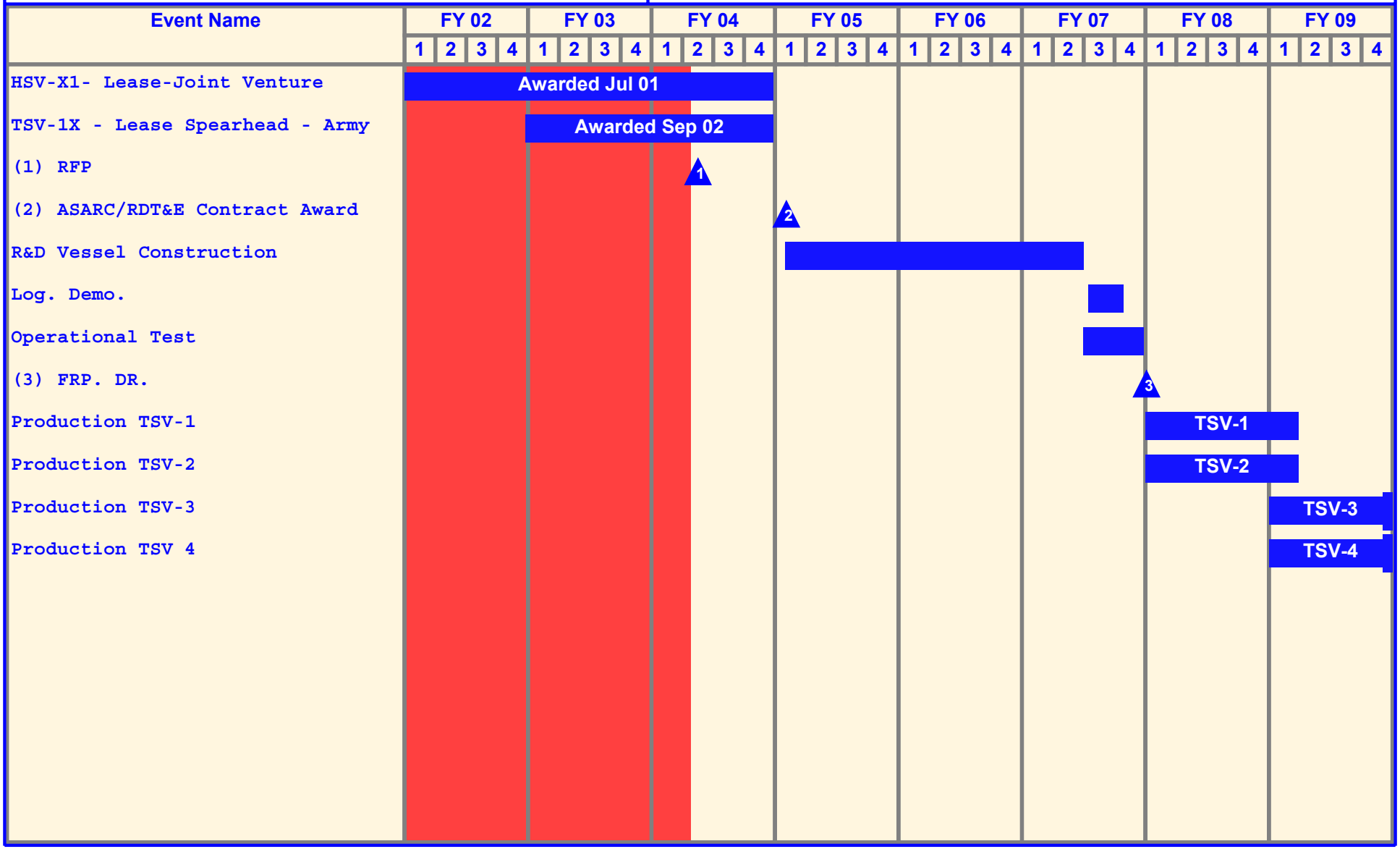
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**461**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **461** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Spiral Developmental/Design Mods | 1-4Q | 1-4Q | | | | | |
| Theater Support Vessel Joint Lease/Test program | 1-4Q | 1-4Q | | | | | |
| Logistic Demonstration | | | | | 3-4Q | | |
| R&D Vessel | | | 1-4Q | 1-4Q | 1-2Q | | |
| Operational Test Technical Review | | | | | 2Q | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H01** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 5653 | 4146 | 4231 | 4635 | 4717 | 3288 | 3181 | Continuing | Continuing |

**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 in the Current Force and the transformation of engineers into the unit of action for the Future Force. This project also supports the Army Chief of Staff's focus on joint interdependence through the air and ground line of communication, high speed excavation, infrastructure repair, and restoration integrated concept teams. Equipment includes items such as: High Mobility Engineer Excavator (HMEE); Skid Steer Loader (SSL); Deployable Universal Combat Earthmover (DEUCE); Tracked Tractor; Scrapers, Scoop Loaders and Graders. The DEUCE and HMEE support the Stryker Brigade Combat Team (SBCT). The HMEE is also a part of the unit of employment in the Future Force. All of these systems support the Current Force of Combat Heavy Engineer Battalions, Construction Support Companies, 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.

This project supports the Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct market investigations, studies, and update specifications for procurements of supporting future engineer transformation. | 217 | 843 | 370 |
| Develop engineer and acquistion documents required for acquisition Milestone Decision. | 407 | 618 | 415 |
| Performed test and evaluation of Volvo equipment. | 170 | 0 | 0 |
| Perform test and evaluation of Family of Loader vehicles. | 0 | 300 | 0 |
| Perform test and evaluations of future engineer equipment. | 0 | 0 | 456 |
| Execute SDD contracts for the HMEE. | 4771 | 528 | 897 |
| HMEE Test and Evaluation (6 prototypes). | 20 | 1236 | 1493 |
| Non-split rim wheel development for Construction Equipment to address the Army's safety concerns. | 0 | 400 | 0 |
| Feasibility study for upgrade of Small Emplacement Excavator (SEE) powertrain. | 68 | 0 | 0 |
| SEE Powertrain Prototype | 0 | 100 | 0 |
| Cooperative Research with Industry | 0 | 0 | 600 |
| Small Business Innovative Research/Small Busintes Technology Transfer (SBIR/STTR) Programs | 0 | 121 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 5653 | 4146 | 4231 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, R02800, Scraper, Earthmoving 14-18 | 0 | 0 | 0 | 0 | 0 | 3099 | 5768 | Continuing | Continuing |
| OPA3, R03801, Grader, Mtzd, Hvy | 638 | 0 | 0 | 0 | 2836 | 12875 | 4091 | Continuing | Continuing |
| OPA3, R05900, Stryker High Mobility Engineer Excavator (SHMEE) | 2179 | 4806 | 0 | 0 | 0 | 0 | 0 | 0 | 19831 |
| OPA3, R05900, High Mobility Engineer Excavator | 2179 | 4806 | 8675 | 8458 | 20970 | 21316 | 23550 | Continuing | Continuing |
| OPA3, M06400, Loader, Scoop 2.5 Cu Yd | 3957 | 5402 | 4041 | 0 | 0 | 0 | 0 | 0 | 14215 |
| OPA3, R03900, Loader Scoop 4-5 Cu Yd | 3324 | 2686 | 6161 | 0 | 0 | 0 | 0 | 0 | 13962 |
| OPA3, ML5325, Item Less than $5M (Engineer Support Equipment) | 7704 | 12851 | 6546 | 3767 | 553 | 10789 | 9376 | Continuing | Continuing |

**C. Acquisition Strategy:** Construction Equipment- All RDT&E followed by competitive procurement.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . HMEE Matrix Spt | MIPR | TACOM, Warren, MI | 760 | 245 | 1-2Q | 719 | 1-2Q | 315 | 1-2Q | Continue | 2039 | Continue |
| b . HMEE SDD Contract w/ options | FFP | ADI, Australia; JCB, Pooler, GA | 179 | 4771 | 3Q | 528 | 1-2Q | 897 | 1-2Q | 0 | 6375 | 7341 |
| c . Research Contracts | FFP | TBD | 0 | 0 | | 0 | | 600 | 2-4Q | Continue | 600 | Continue |
| d . SEE Powertrain Prototype | FFP | TBD | 0 | 0 | | 100 | 3-4Q | 0 | | 0 | 100 | 0 |
| e . Feasibility Study | FFP | International Consultants, Inc., Dayton, OH | 0 | 68 | 3Q | 0 | | 0 | | 0 | 68 | 0 |
| f . Non-split rim development | FFP | TBD | 0 | 0 | | 400 | 3-4Q | 0 | | 0 | 400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 939 | 5084 | | 1747 | | 1812 | | Continue | 9582 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**

| 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 | TARDEC, Warren, MI | 8533 | 186 | 1-2Q | 291 | 1-2Q | 270 | 1-4Q | Continue | 9280 | Continue |
| b . Engineering Operational Integrator Support | MIPR | DA/Pentagon, Washington, DC | 0 | 0 | | 156 | 2Q | 0 | | 0 | 156 | 0 |
| c . Construction Equipment Lease Study | MIPR | DA/Pentagon, Washington, DC | 0 | 0 | | 200 | 2Q | 0 | | 0 | 200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 8533 | 186 | | 647 | | 270 | | Continue | 9636 | 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 . HMEE Test and Prep | MIPR | ATEC, Aberdeen, MD | 28 | 20 | 2Q | 1236 | 1-2Q | 1493 | 1-2Q | 0 | 2777 | 2048 |
| b . System and Component testing | MIPR | ATEC, Aberdeen, MD | 1121 | 170 | 1Q | 300 | 4Q | 456 | 1-4Q | Continue | 2047 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1149 | 190 | | 1536 | | 1949 | | Continue | 4824 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**

| 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 Mgt | In-house | PM CE, Warren, MI | 150 | 193 | 1-2Q | 216 | 1-2Q | 200 | 1-2Q | Continue | 759 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 150 | 193 | | 216 | | 200 | | Continue | 759 | Continue |
| Project Total Cost: | | | 10771 | 5653 | | 4146 | | 4231 | | Continue | 24801 | Continue |

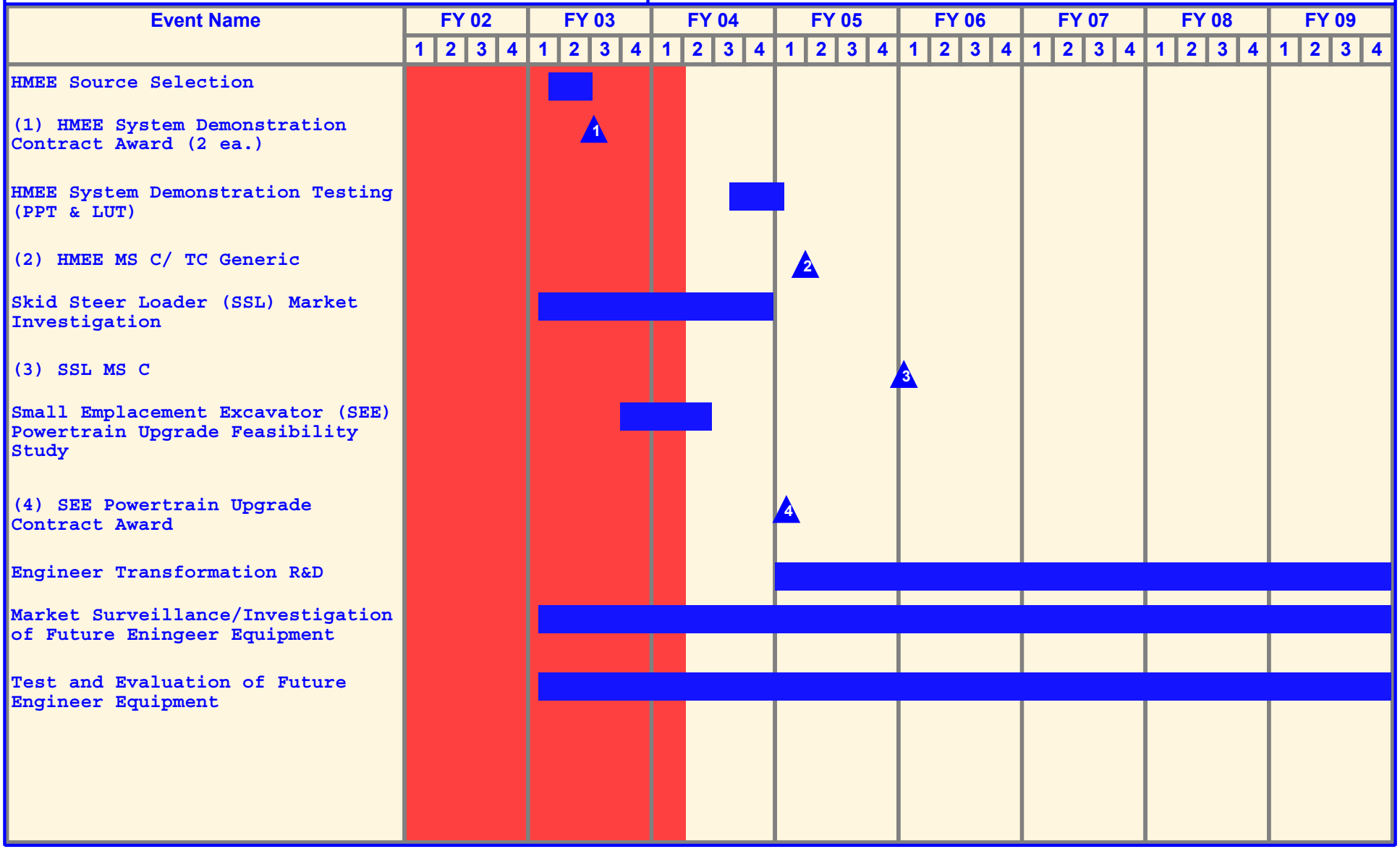
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H01**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H01** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Market Surveillance/Investigation | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Acquisition documents supporting Milestone Decisions | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Test and Evaluation of Volvo equipment | 1Q | | | | | | |
| Test and Evaluation of Family of Loaders vehicles | | 4Q | | | | | |
| Test and Evaluation of Future Engineer Equipment | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| HMEE SDD Contracts | 2-3Q | 1-4Q | 1-2Q | | | | |
| HMEE Testing | | 3-4Q | 1Q | | | | |
| Coop Research Industry | | | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| HMEE MS C | | | 1-3Q | | | | |
| SEE Feasibility Study | 4Q | 1-2Q | | | | | |
| SEE Prototype Award | | 3-4Q | | | | | |
| SSL MS C | | | | 1Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H02** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 1020 | 1925 | 2479 | 2973 | 2809 | 9092 | 21803 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports the engineering, system development and demonstration, and transition to procurement of Future Force tactical bridge systems. Efforts supported include: the assessment of the Rapidly Emplaced Bridging System (REBS) for the Stryker Brigade Combat Team (SBCT) and its integration into the Future Combat System (FCS) chassis; the upgrade and testing of the Bridge Erection Boat (BEB) and the REBS; and development of new composite technology for the REBS and the Dry Support Bridge (DSB).

This project supports the Stryker Brigade Combat Team (SBCT) and the Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Testing of the Improved Bridge Anchorage System | 41 | 0 | 0 |
| Procure representative samples of Improved Bridge Anchorage System. | 149 | 0 | 0 |
| Initiate Operational Testing on the REBS | 150 | 1594 | 0 |
| Future Bridging Requirements Documentation | 150 | 0 | 0 |
| Perform Limited User Test on the Bridge Erection Boat. | 530 | 0 | 0 |
| Plan and develop a composite integrated bridge for testing on the Rapidly Emplaced Bridging System (REBS) | 0 | 0 | 1370 |
| Develop a new composite launch beam for the Dry Support Bridge | 0 | 275 | 1109 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 56 | 0 |
| Totals | 1020 | 1925 | 2479 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, MA8890, Tactical Bridge, Float Ribbon | 70576 | 62426 | 17360 | 5126 | 7404 | 5040 | 25523 | Continuing | Continuing |
| OPA3, MX0100, Tactical Bridging | 68994 | 42223 | 34137 | 26611 | 28730 | 23181 | 42867 | Continuing | Continuing |

**C. Acquisition Strategy:** Limited RDTE effort to support testing and follow-on production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | General Dynamics SBS, Kaiserslautern, GE | 0 | 149 | 3Q | 0 | | 0 | | 0 | 149 | 0 |
| b . PM/Matrix Support | MIPR | TACOM, Warren, MI | 968 | 0 | | 0 | | 0 | | 0 | 968 | 0 |
| c . REBS Composite Bridge | SS-CPFF | General Dynamics SBS, Kaiserslautern, GE | 0 | 0 | | 0 | | 1370 | 1-2Q | 0 | 1370 | 0 |
| d . DSB Composite Beam | SS-CPFF | WFEL, Stockport, England | 0 | 0 | | 275 | 2Q | 1109 | 2-3Q | 0 | 1384 | 0 |
| e . Future Bridging Requirements Documentation | MIPR | | 0 | 150 | 3Q | 0 | | 0 | | 0 | 150 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 968 | 299 | | 275 | | 2479 | | 0 | 4021 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**

| 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 . Anchorage System | MIPR | APG, Aberdeen, MD | 0 | 41 | 2Q | 0 | | 0 | | Continue | 41 | 0 |
| b . REBS OT | MIPR | HQ OTC, Ft Hood, TX | 0 | 150 | 3Q | 1650 | 2Q | 0 | | 0 | 1800 | 0 |
| c . BEB LUT | MIPR | ATC, Aberdeen Proving Ground, MD | 0 | 530 | 3Q | 0 | | 0 | | 0 | 530 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 721 | | 1650 | | 0 | | Continue | 2371 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**

| 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: | | | 968 | 1020 | | 1925 | | 2479 | | Continue | 6392 | 0 |

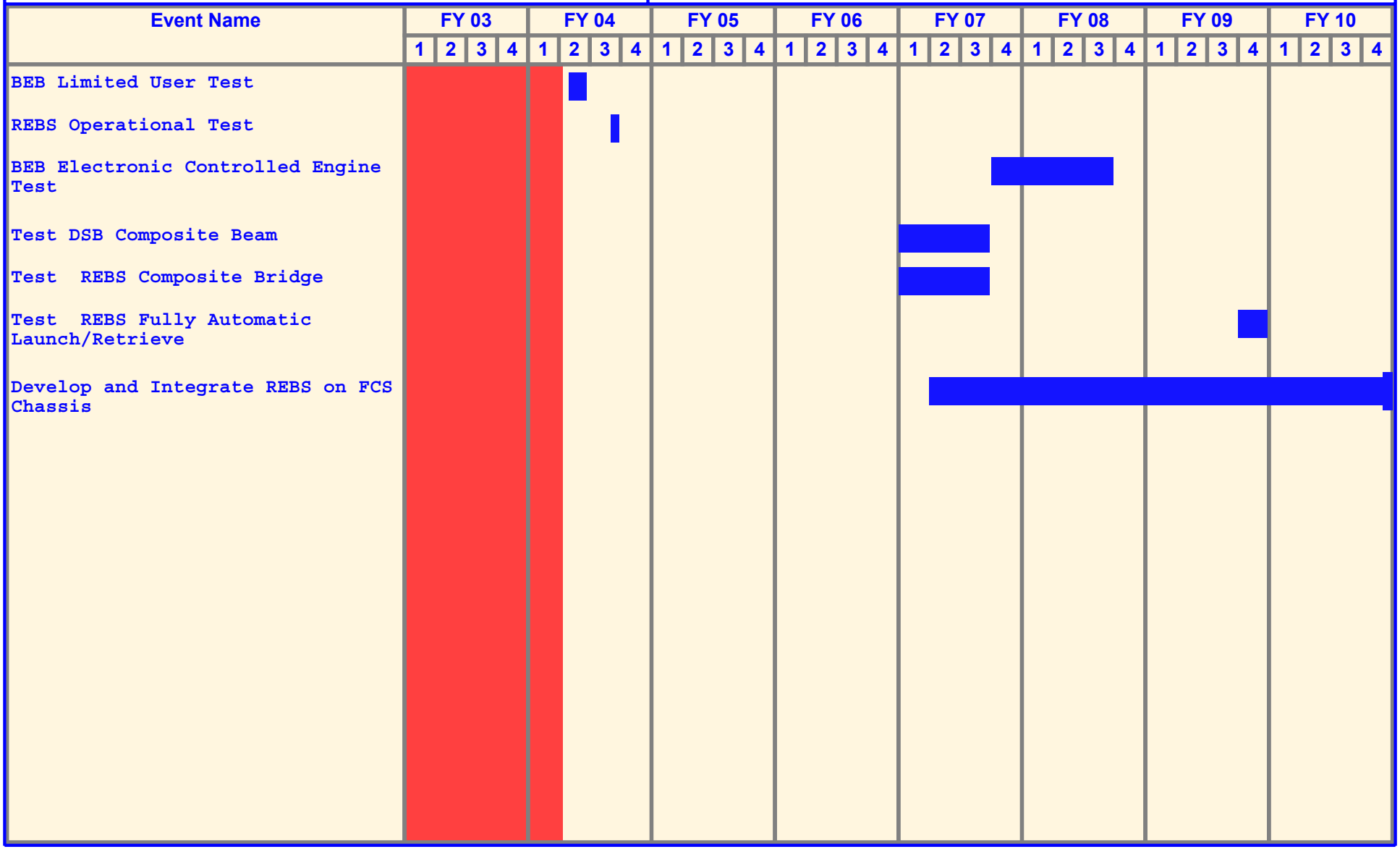
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**H02**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **H02** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Procure Anchorage System Representatives Samples | 3Q | | | | | | |
| Anchorage System Testing | 3-4Q | 1-2Q | | | | | |
| REBS Operational Test | 2Q | 3Q | | | | | |
| BEB Limited User Test | | 2Q | | | | | |
| Develop REBS Composite Bridge | | | 1-2Q | | | | |
| Integrate REBS Composite Bridge | | | 3-4Q | 1-4Q | | | |
| Test New REBS Composite Bridge | | | | | 1-3Q | | |
| Develop DSB Composite Beam | | 4Q | 1-3Q | | | | |
| Integrate New DSB Composite Beam | | | 4Q | 1-4Q | | | |
| Test DSB Composite Beam | | | | | 1-3Q | | |
| Develop and Integrate BEB Electronic Controlled Engine | | | | 3-4Q | | | |
| Purchase and Install BEB Electronic Controlled Engine | | | | | 1-3Q | | |
| Test BEB Electronic Controlled Engines | | | | | 4Q | 1-3Q | |
| Planning and Development of the REBS Fully Automated Launch/Retrieve | | | | | 2-4Q | 1-4Q | |
| Development of the REBS into Future Combat System (FCS) Chassis | | | | | 2-4Q | 1-3Q | |
| Integrate the REBS into the FCS Chassis | | | | | | 4Q | 1-3Q |
| Integration of REBS Fully Automated | | | | | | | 1-3Q |
| Testing of the REBS fully automated Launch/Retrieve | | | | | | | 4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L39** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 981 | 8326 | 4606 | 9820 | 11691 | 14541 | 11074 | 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 shelter systems and support equipment for Tactical Operation Centers with added capabilities and enhanced survivability. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Future Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary 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 Stryker Brigade Combat Team (SBCT) and Future Force Capabilities for the transition path of the Transformation Campaign Plan (TCP) for projecting and sustaining Joint Expeditionary Forces.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY 03: Completed Developmental Testing (DT) and coordinated Operational Test (OT) activities for Large Capacity Field Heater (LCFH). FY04: Conduct OT of LCFH and obtain Milestone C decision. | 298 | 500 | 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. | 393 | 0 | 0 |
| Completed updates to Acquisition Program Baseline (APB), Test and Evaluation Master Plan (TEMP) and Life Cycle Cost Estimate (LCCE) for rebaselining of IECU program. FY 04: Due to the loss of centralized funding for ECU's in FY 05 and beyond, contract was terminated. Actions (internal/external) resulting from termination to be completed in FY 04. | 290 | 595 | 0 |
| Award development contract for the Mobile Integrated Remains Collection System (MIRCS) and initiate prototype fabrication. | 0 | 1314 | 0 |
| Complete prototype fabrication and initiate Developmental Testing for MIRCS. | 0 | 0 | 1100 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Acquire 60k British Thermal Unit (BTU) Space Heater Convective Developmental Test (DT) and Operational Test (OT) prototypes. Conduct DT/OT. FY05 - Complete Milestone C decision to transition into production. Prepare for and obtain Milestone B for 120k SHC. | 0 | 785 | 631 |
| Purchase Operational Test items for 500' Low Velocity Airdrop System (LVADS). | 0 | 1089 | 0 |
| Initiate Operational Testing for 500' LVADS. | 0 | 600 | 0 |
| Purchase data rights for 500' LVADS. | 0 | 0 | 1600 |
| Obtain Milestone C type classification for 500' LVADS. | 0 | 0 | 300 |
| Purchase test items on the Enhanced Container Delivery System (ECDS). | 0 | 433 | 0 |
| Conduct DT/OT on the ECDS. | 0 | 850 | 0 |
| Obtain Milestone C type classification for ECDS. | 0 | 0 | 225 |
| Purchase data rights for ECDS. | 0 | 0 | 500 |
| Complete DT and OT on the Trailer Mounted Support System (TMSS) for Stryker Brigade Combat Team (SBCT). | 0 | 1218 | 0 |
| FY 04 Conduct testing of Extraction Parachute Jettison System (Heavy) (EPJS(H))to evaluate the integration of subsystems and components coupled with aircraft compatibility. FY 05: Conduct Milestone C. | 0 | 700 | 250 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 242 | 0 |
| Totals | 981 | 8326 | 4606 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA3, MF9000, Environmental Control Units (ECU) | 15126 | 21194 | 17554 | 1998 | 2000 | 2000 | 14 | Continuing | Continuing |

**C. Acquisition Strategy:** Accelerate product development and testing to transition into production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 1005 | 1-4Q | 426 | 1-4Q | Continue | 1431 | 3241 |
| b . Soldier Support Equipment | In-House | CECOM, FT Belvoir | 0 | 981 | 1-4Q | 460 | 1-4Q | 227 | 1-4Q | Continue | 1668 | 0 |
| c . Soldier Support Equipment | Contracts | Various | 974 | 0 | | 3000 | 1-2Q | 2345 | 1-2Q | Continue | 6319 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 974 | 981 | | 4465 | | 2998 | | Continue | 9418 | 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(R3)

**February 2004**

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 | | 580 | 1-4Q | 132 | 1-4Q | Continue | 712 | 130 |
| b . Soldier Support Equipment | MIPR | Yuma Proving Ground, AZ | 0 | 0 | | 2188 | 1-4Q | 676 | 1-4Q | Continue | 2864 | 76 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 2768 | | 808 | | Continue | 3576 | 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 | | 1093 | 1-4Q | 800 | 1-4Q | Continue | 1893 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1093 | | 800 | | Continue | 1893 | 0 |
| Project Total Cost: | | | 974 | 981 | | 8326 | | 4606 | | Continue | 14887 | 3447 |

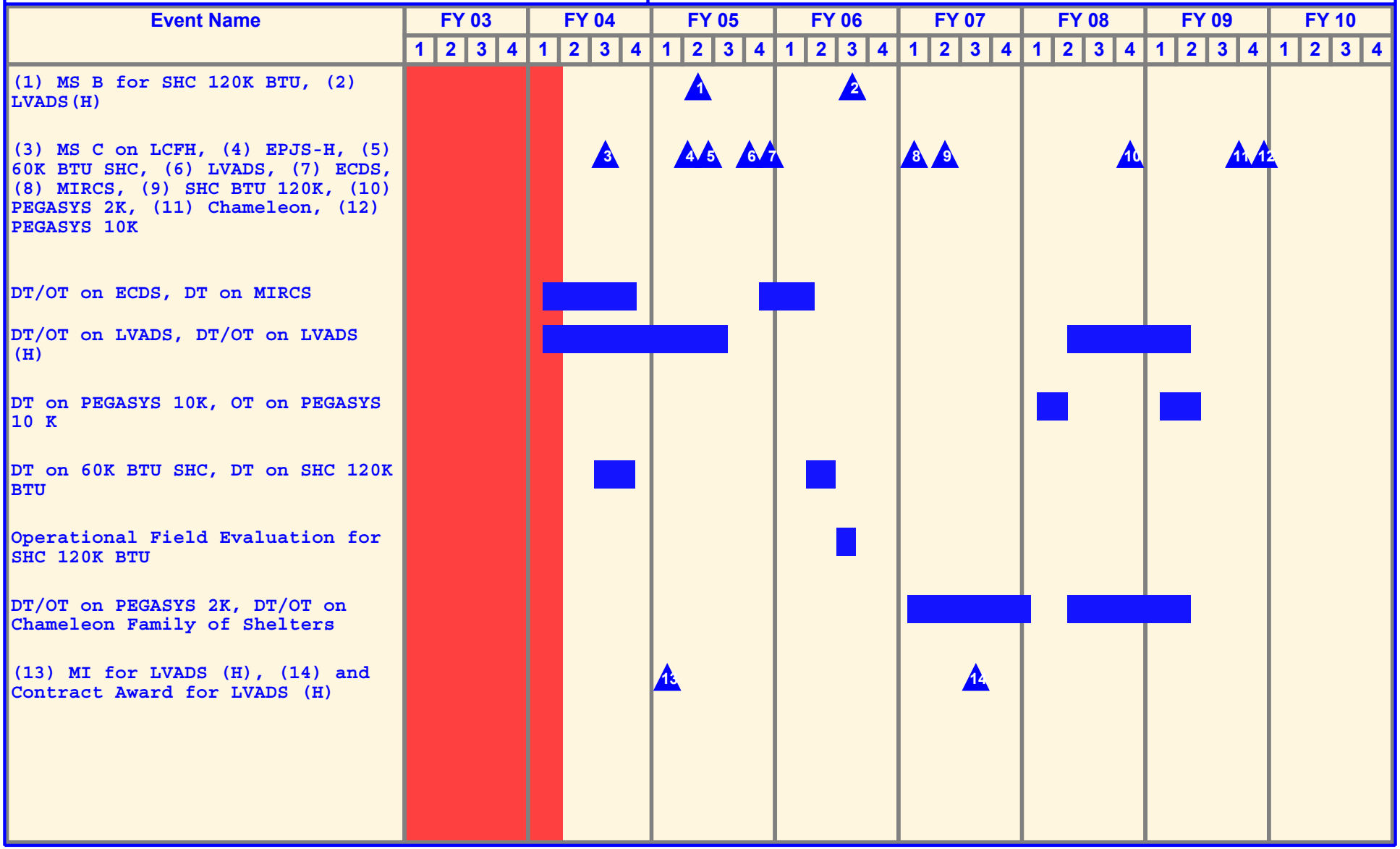
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L39**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L39** |

| Schedule Detail | 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). | | 3Q | | | | | |
| Conduct Milestone C Decision on the Large Capacity Field Heater . | | 3Q | | | | | |
| Initiate Developmental Testing (DT) on the Mobile Integrated Remains Collection System (MIRCS). | | | 4Q | | | | |
| Complete DT on MIRCS. | | | | 2Q | | | |
| Conduct Milestone C Decision on the MIRCS and transition into production. | | | | | 1Q | | |
| Complete DT/Operational Testing (OT) on 60k British Thermal Unit (BTU) Space Heater Convective (SHC) | | 3-4Q | | | | | |
| Conduct Milestone C Decision on the 60k BTU SHC. | | | 2Q | | | | |
| Initiate DT and OT on Advanced Low Velocity Airdrop System (LVADS). | | 1Q | | | | | |
| Complete DT and OT on LVADS. | | | 3Q | | | | |
| Conduct Milestone C Decision on the LVADS. | | | 4Q | | | | |
| Conduct Market Investigation for LVADS (H). | | | 1Q | | | | |
| Obtain Milestone B approval for LVADS (H). | | | | 3Q | | | |
| Conduct contract award for LVADS (H). | | | | | 3Q | | |
| Conduct DT for LVADS (H). | | | | | | 2Q | |
| Conduct OT for LVADS (H). | | | | | | | 2Q |
| Initiate DT and OT on Enhanced Containerized Delivery System (ECDS). | | 1Q | | | | | |
| Complete DT and OT on ECDS. | | 4Q | | | | | |
| Conduct Milestone C Decision on ECDS. | | | 4Q | | | | |
| Conduct Milestone C Decision of The Extraction Parachute Jettison System - Heavy | | | 2Q | | | | |
| Conduct DT on PEGASYS 2k. | | | | | 1Q | | |
| Conduct OT for PEGASYS 2k. | | | | | | 1Q | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L39** |

| **Schedule Detail (continued)** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Obtain Milestone C for PEGASYS 2k. | | | | | | 4Q | |
| Conduct DT for PEGASYS 10k. | | | | | | 1-2Q | |
| Conduct OT for PEGASYS 10k. | | | | | | | 1-2Q |
| Obtain Milestone C decision for PEGASYS 10k. | | | | 2Q | | | 4Q |
| Conduct Milestone B for SHC 120k BTU. | | | 2Q | | | | |
| Conduct DT on SHC 120k BTU. | | | | 2Q | | | |
| Conduct Operational Field Evaluation on SHC 120k British Thermal Unit (BTU). | | | | 3Q | | | |
| Conduct Milestone C on SHC 120k BTU. | | | | | 2Q | | |
| Conduct DT on Chameleon family of shelters. | | | | | | | 2-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L41** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 7468 | 1672 | 3063 | 5574 | 7199 | 3580 | 3651 | Continuing | 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 Future 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 Rapidly Installed Fluid Transfer System (RIFTS) is being developed to replace the Inland Petroleum Distribution System (IPDS). RIFTS can be deployed at a rate of 20-30 miles per day as compared to 2-3 miles per day for IPDS. 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 Current-to-Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue Petroleum, Quality Analysis System (PQAS) Pre-Planned Product Improvements (P3I). | 100 | 82 | 0 |
| Evaluated commercial water treatment components for P3I for water purification systems. | 647 | 200 | 0 |
| Continue PQAS prototype fabrication and testing. | 637 | 300 | 0 |
| Rapidly Installed Fuel Transfer System (RIFTS) development, prototype design, fabrication, and test. | 2776 | 997 | 2832 |
| Develop purchase description for Versatile Tank & Pump Unit (VTPU) and prepare program management documents. | 70 | 0 | 0 |
| Program management and support. | 0 | 50 | 72 |
| Develop Load Handling System (LHS) Modular Fuel Farm (LMFF) prototype and conduct road test/stability test on existing prototype units. | 155 | 0 | 0 |
| Conduct 1500 Tactical Water Purification System (TWPS) Operational Test (OT). | 700 | 0 | 0 |
| Lightweight Water Purifier (LWP) Operational Test (OT). | 597 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conducted Heavy Expanded Mobile Tactical Truck (HEMTT)-Load Handling System (LHS) Compatible Water Tankrack (HIPPO) technical and operational testing. | 270 | 0 | 0 |
| Unit Water Pod System (CAMEL) coupled simulation testing. | 16 | 0 | 0 |
| Initiated SDD contract for CAMEL. | 1500 | 0 | 0 |
| Conduct Market Investigation and requirements definition of advanced mobile aviation refueling system. | 0 | 0 | 159 |
| Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) | 0 | 43 | 0 |
| Totals | 7468 | 1672 | 3063 |

| **B. Other Program Funding Summary** | 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 | 3948 | 472 | 3990 | 3382 | 4461 | 3508 | 3427 | Continuing | Continuing |
| OPA 3, R67500, Quality Surveillance Equipment | 1083 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OPA 3, R05200, Water Purification Systems | 6551 | 9927 | 4013 | 11342 | 7070 | 0 | 0 | Continuing | Continuing |
| OPA 3, MA6000, Distribution Systems, Petroleum & Water | 24881 | 24475 | 38091 | 46656 | 80451 | 93924 | 150310 | 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(R3)

**February 2004**

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 | 703 | 107 | 2Q | 82 | 1Q | 0 | | Continue | 892 | Continue |
| b . PQAS | MIPR | Rock Island Arsenal, Rock Island, IL | 2290 | 107 | 3Q | 0 | | 0 | | Continue | 2397 | Continue |
| c . RIFTS | In-House | TARDEC, Warren, MI | 281 | 124 | 2Q | 0 | | 300 | 1-4Q | Continue | 705 | Continue |
| d . RIFTS | C-CPFF | Southwest Research Institute, San Antonio, TX | 3007 | 2576 | 2Q | 0 | | 0 | | 0 | 5583 | 0 |
| e . RIFTS | C-CPFF | Southwest Research Institute, San Antonio, TX | 0 | 0 | | 640 | 2Q | 1632 | 2Q | Continue | 2272 | Continue |
| f . 1500 GPH TWPS | Task Order Contract | ICI, Dayton, OH | 370 | 0 | | 0 | | 0 | | 0 | 370 | 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 | 175 | 0 | | 50 | 1Q | 0 | | 0 | 225 | 190 |
| i . Water Purification P31 | Purchase Orders | TBD | 100 | 0 | | 150 | 1-3Q | 0 | | 0 | 250 | 100 |
| j . CAMEL | Purchase Order | Southwest Research Institute, San Antonio, TX | 126 | 0 | | 0 | | 0 | | 0 | 126 | 125 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . LWP | MIPR | TEXCOM, Ft. Hood, TX | 0 | 597 | 2Q | 0 | | 0 | | Continue | 597 | Continue |
| l . HIPPO | FFP | Mil-Mar Century Corp, Dayton, OH | 712 | 0 | | 0 | | 0 | | 0 | 712 | 740 |
| m . CAMEL | CPFF | Radian, Troy, MI | 0 | 1500 | 3Q | 0 | | 0 | | 0 | 1500 | 739 |
| n . VTPU | In-House | TARDEC, Warren, MI | 0 | 70 | 2Q | 0 | | 0 | | 0 | 70 | 0 |
| o . LMFF | In House | TARDEC, Warren, MI | 0 | 55 | 1Q | 0 | | 0 | | 0 | 55 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12004 | 5136 | | 922 | | 1932 | | Continue | 19994 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| 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 . Water Purification P3I | MIPR | CHPPM, APG, MD | 25 | 0 | | 0 | | 0 | | 0 | 25 | 25 |
| c . Water Purification P31 | In-House | TACOM, Warren, MI | 50 | 200 | 1Q | 0 | | 0 | | 0 | 250 | 50 |
| d . LMFF | In-House | TACOM, Warren, MI | 0 | 50 | 2Q | 0 | | 0 | | Continue | 50 | Continue |
| e . HIPPO | FFP | TBD | 250 | 0 | | 0 | | 0 | | 0 | 250 | 250 |
| f . CAMEL | In-House | TARDEC, Warren, MI | 147 | 0 | | 0 | | 0 | | 0 | 147 | 147 |
| g . CAMEL | MIPR | APG, Aberdeen, MD | 10 | 0 | | 0 | | 0 | | 0 | 10 | 10 |
| h . RIFTS | In-House | TACOM, Warren, MI | 0 | 76 | 2Q | 100 | 2Q | 300 | 2Q | 0 | 476 | 0 |
| i . Advanced Mobile Aviation Refueling System | In House | TACOM, Warren, MI | 0 | 0 | | 0 | | 159 | 2Q | 0 | 159 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 612 | 360 | | 100 | | 459 | | Continue | 1531 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**

| 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 | 523 | 22 | 2Q | 300 | 2Q | 0 | | Continue | 845 | Continue |
| b . PQAS | MIPR | APG, Aberdeen, MD | 0 | 0 | 2-3Q | 0 | | 0 | | 0 | 0 | 25 |
| c . RIFTS DT/OT | MIPR | TECOM, Aberdeen, MD | 0 | 0 | | 300 | 3Q | 600 | 2Q | 0 | 900 | Continue |
| d . 1500 GPH TWPS | MIPR | NFESC, Port Huaneme, CA | 340 | 0 | | 0 | | 0 | | 0 | 340 | 340 |
| e . Water Purification P3I | In-House | TARDEC, Warren, MI | 210 | 247 | 1Q | 0 | | 0 | | 0 | 457 | 200 |
| f . Water Purification P3I | MIPR | Dugway PG, Dugway, MD | 200 | 20 | 2Q | 0 | | 0 | | 0 | 220 | 200 |
| g . Water Purification P3I | MIPR | NFESC, Port Hueneme, CA | 35 | 0 | | 0 | | 0 | | 0 | 35 | 35 |
| h . 1500 GPH TWPS | MIPR | ATC, APG, MD | 71 | 0 | | 0 | | 0 | | 0 | 71 | 71 |
| i . 1500 GPH TWPS | MIPR | TEXCOM, Ft. Hood, TX | 4 | 700 | 2-3Q | 0 | | 0 | | Continue | 704 | Continue |
| j . LMFF | In House | TARDEC, Warren, MI | 0 | 100 | 3Q | 0 | | 0 | | Continue | 100 | Continue |
| k . HIPPO | MIPR | APG, Aberdeen, MD | 161 | 270 | 2-4Q | 0 | | 0 | | 0 | 431 | 64 |
| l . CAMEL | MIPR | YPG, Yuma, AZ | 0 | 0 | | 0 | | 0 | | 0 | 0 | 254 |
| m . LWP | MIPR | TEXCOM | 0 | 597 | 2-4Q | 0 | | 0 | | 0 | 597 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| n . CAMEL | In House | TARDEC, Warren, MI | 0 | 16 | 2Q | 0 | | 0 | | 0 | 16 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1544 | 1972 | | 600 | | 600 | | Continue | 4716 | 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 . PQSL | In-House | TARDEC, Warren, MI | 211 | 0 | | 0 | | 0 | | 0 | 211 | 0 |
| b . Program Management Support | In-House | TACOM, Warren, MI | 877 | 0 | 1Q | 50 | 1Q | 72 | 1Q | Continue | 999 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1088 | 0 | | 50 | | 72 | | Continue | 1210 | 0 |

Remarks: Not Applicable

| Project Total Cost: | | | 15248 | 7468 | | 1672 | | 3063 | | Continue | 27451 | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

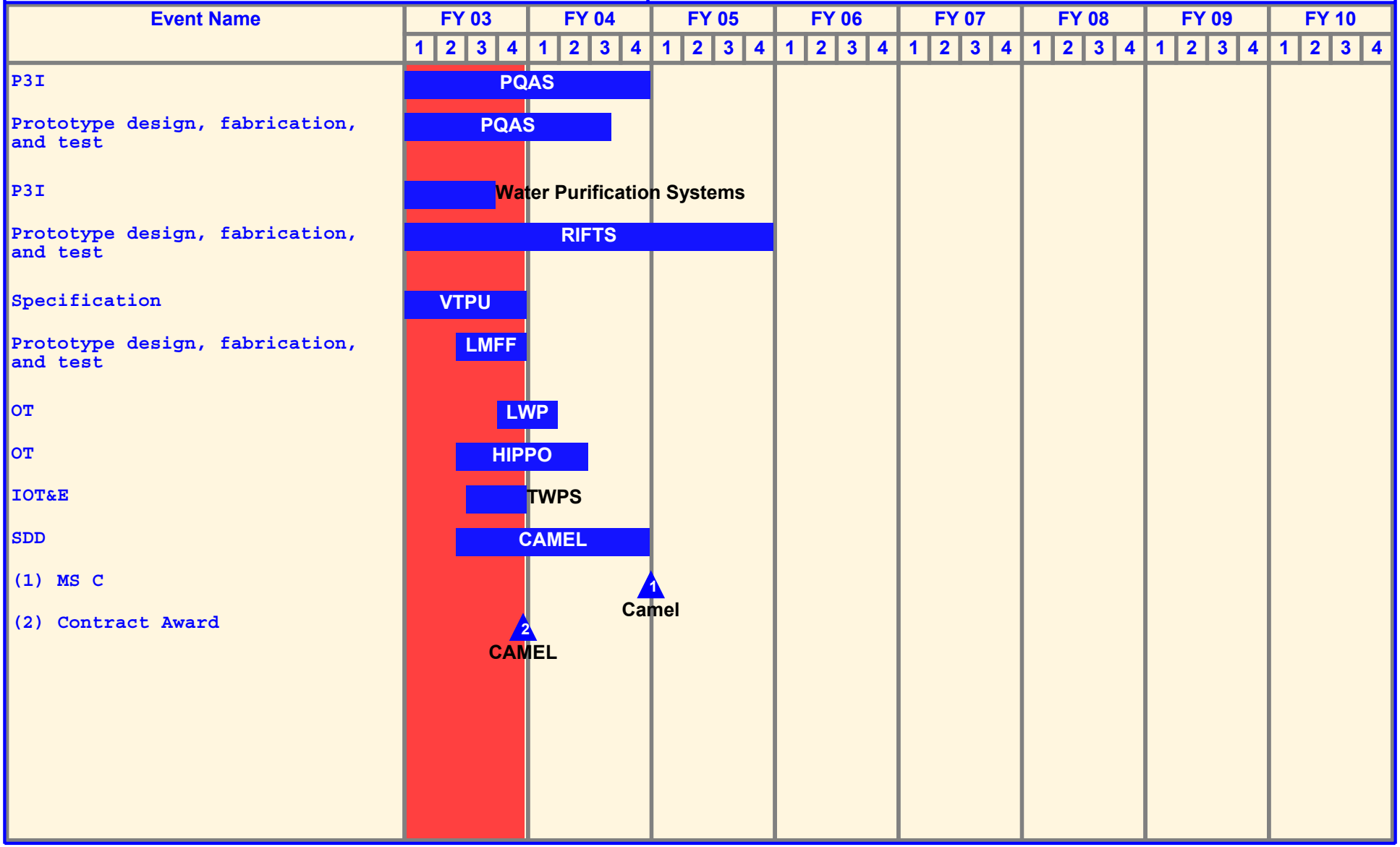
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L41**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L41** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct PQAS P3I. | 1-4Q | 1-4Q | | | | | |
| Continue PQAS prototype fabrication and testing. | 1-4Q | 1-3Q | | | | | |
| Evaluate commercial water treatment components for P3I for water purification systems. | 1-3Q | | | | | | |
| RIFTS development, prototype design, fabrication, and test. | 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. | 3-4Q | | | | | | |
| LWP OT | 4Q | 1Q | | | | | |
| Conduct HIPPO technical and operational testing | 2-4Q | 1-2Q | | | | | |
| TWPS IOTE | 3-4Q | | | | | | |
| Camel Contract Award | 4Q | | | | | | |
| Camel SDD | 2-4Q | 1-4Q | | | | | |
| Camel MS C decision | | 4Q | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L42** |

| COST (In Thousands) | FY 2003 Actual | 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 | 329 | 660 | 1603 | 1638 | 1155 | 1870 | 1723 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project provides for system development and demonstration of camouflage equipment that will transition into procurement providing 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 Future Force Capabilities by maintaining readiness through fielding and integrating new equipment by reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support, and by reducing vulnerability to detection by advanced sensors.

This project supports the Stryker Brigade Combat Team (SBCT) and Future Force Capabilities for the transition path of the Transformation Campaign Plan (TCP) for projecting and sustaining Joint Expeditionary Forces.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Support transition of Ultra Lightweight Camouflage Net System (ULCANS) Desert Radar Scattering, Desert Radar Transparent, and Woodland Radar Transparent into production phase. | 329 | 0 | 0 |
| FY 04 - Prepare Milestone B and initiate development of Arctic/Snow ULCANS variants. FY 05 - Complete Developmental Testing (DT) and Operational Testing (OT). Conduct Milestone C on Artic/Snow ULCANS variants. | 0 | 641 | 495 |
| Prepare Milestone B and initiate development and testing of Urban and Aviation Camouflage System. | 0 | 0 | 296 |
| Initiate product improvement effort to counter emerging technologies in FY 2005 for all variants, Woodland, Desert, Snow, Urban and Aviation ULCANS. | 0 | 0 | 812 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 19 | 0 |
| Totals | 329 | 660 | 1603 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, 0602712.AH35, Camouflage Technology | 2417 | 2643 | 2735 | 2830 | 2881 | 2938 | 3002 | Continuing | Continuing |

**C. Acquisition Strategy:** Develop camouflage systems for Services and transition developmental items into procurement with a competitive award. 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(R3)

**February 2004**

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 . Camouflage Equipment | MIPR | CECOM, FT Belvoir | 0 | 144 | 1-4Q | 0 | | 0 | | 0 | 144 | 0 |
| b . ULCANS Arctic/Snow | MIPR | CECOM, FT Monmouth | 0 | 0 | | 100 | 1-2Q | 307 | 1-4Q | 0 | 407 | 0 |
| c . ULCANS Urban/Aviation | MIPR | CECOM, FT Monmouth | 0 | 0 | | 0 | | 307 | 1-4Q | Continue | 307 | 0 |
| d . ULCANS Technology Insertion | CPFF | CECOM, FT Monmouth | 0 | 144 | 1-4Q | 100 | 1-4Q | 457 | 1-4Q | Continue | 701 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 288 | | 200 | | 1071 | | Continue | 1559 | 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(R3)

**February 2004**

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, Arctic/Snow | MIPR | TECOM, WSMR | 15 | 0 | | 50 | 1-2Q | 0 | | 0 | 65 | 0 |
| b . ULCANS, Urban/Aviation | | | 0 | 0 | | 50 | 1-4Q | 102 | 2-3Q | Continue | 152 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15 | 0 | | 100 | | 102 | | Continue | 217 | 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 | 41 | 1-4Q | 240 | 1-4Q | 300 | 1-4Q | Continue | 780 | 0 |
| b . Program Support | Contract | Radian, INC | 100 | 0 | | 120 | 1-4Q | 130 | 1-4Q | Continue | 350 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 299 | 41 | | 360 | | 430 | | Continue | 1130 | 0 |
| Project Total Cost: | | | 314 | 329 | | 660 | | 1603 | | Continue | 2906 | 0 |

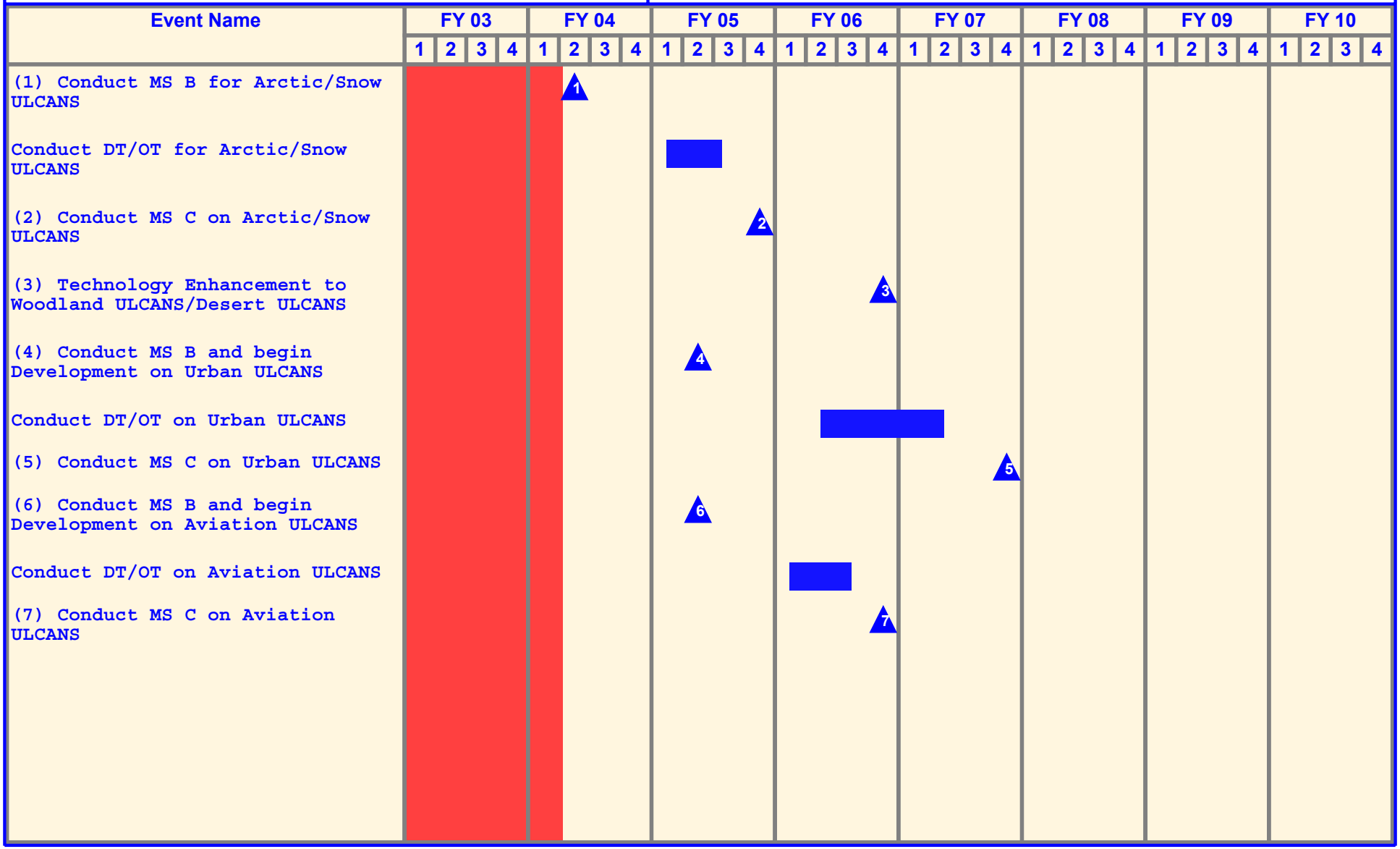
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L42**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L42** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct Milestone B of Arctic/Snow Ultra Lightweight Camouflage Net System (ULCANS). | | 2Q | | | | | |
| Initiate Developmental Testing (DT) and Operational Testing (OT) of Arctic/Snow ULCANS. | | | 1Q | | | | |
| Complete DT and OT of Arctic/Snow ULCANS. | | | 3Q | | | | |
| Conduct Milestone C on Arctic/Snow ULCANS. | | | 4Q | | | | |
| Technology Enhancement to Woodland ULCANS/Desert ULCANS. | | | | 4Q | | | |
| Conduct Milestone B and begin development of Urban ULCANS. | | | 2Q | | | | |
| Initiate DT and OT of Urban ULCANS. | | | | 2Q | | | |
| Complete DT and OT of Urban ULCANS. | | | | | 2Q | | |
| Conduct Milestone C on Urban ULCANS. | | | | | 4Q | | |
| Conduct Milestone B and begin development of Aviation ULCANS. | | | 2Q | | | | |
| Initiate DT and OT of Aviation ULCANS. | | | | 1Q | | | |
| Complete DT and OT of Aviation ULCANS. | | | | 3Q | | | |
| Conduct Milsetone C on Aviation ULCANS. | | | | 4Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L43** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 2862 | 1214 | 1154 | 1172 | 1192 | 4683 | 5371 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports systems development and demonstration 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 Future and Joint Expeditionary Force. This project also develops Maintenance equipment associated with Sets, Kits, Outfits and Tools (SKOTs).

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

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conducted market investigation, develop performance specifications and conduct pre-production award effort for diving equipment. | 576 | 529 | 590 |
| Award System Development & Demonstration contract for well drilling module. | 60 | 0 | 0 |
| Conduct market investigation, engineering effort, and develop performance specifications for woodworking shop. | 168 | 0 | 0 |
| Fabrication of prototype for woodworking shop. | 208 | 0 | 0 |
| Conduct market investigation, engineering effort, and develop performance specifications for maintenance equipment (tools). | 1662 | 0 | 0 |
| Allied Trade effort to conduct market investigation, engineering effort, and develop performance specifications for Organizational / General Purpose Shop Set. | 128 | 268 | 171 |
| Conduct Life Cycle Modernization Analyses for Engineer Support Equipment (ESE) Sets, Kits, Outfits and Tools (SKOTs). | 60 | 132 | 143 |
| Developing scope of work for major product improvement for the newly, re-designed Hydraulic System Test and Repair Unit (HYSTRU). | 0 | 250 | 250 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 35 | 0 |
| Totals | 2862 | 1214 | 1154 |

| **B. Other Program Funding Summary** | 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) | 7704 | 12851 | 6546 | 3767 | 553 | 10789 | 9376 | Continuing | Continuing |

**C. Acquisition Strategy:** Programs will progress from System Development and Demonstration (SDD) and transition into production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 576 | 2Q | 564 | 2Q | 590 | 2Q | Continue | 1979 | 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 | 32 | 4Q | 0 | | 0 | | 0 | 751 | 751 |
| d . Well drilling System Development and Demonstration contract | Competitve Cost Plus Fixed Fee | Radian, Warren, MI | 0 | 28 | 4Q | 0 | | 0 | | 0 | 28 | 28 |
| 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 | 1662 | 1-4Q | 0 | | 0 | | 0 | 1662 | 162 |
| g . Organizational / General Purpose Shop Set | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 128 | 1-4Q | 268 | 1-2Q | 171 | 1-2Q | Continue | 567 | Continue |
| h . Hydraulic System Test and Repair Unit (HYSTRU) scope of work development | IN-HOUSE | Rock Island Arsenal, Rock Island, IL | 0 | 0 | | 250 | 1-2Q | 250 | 1-2Q | Continue | 500 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| i . Conduct LIfe Cycle Modernization Analyses for Engineer Support Equipment (ESE) SKOTs | | | 0 | 60 | 2Q | 132 | 2Q | 143 | 2Q | 0 | 335 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1287 | 2862 | | 1214 | | 1154 | | Continue | 6517 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**

| 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: | | | 1287 | 2862 | | 1214 | | 1154 | | Continue | 6517 | Continue |

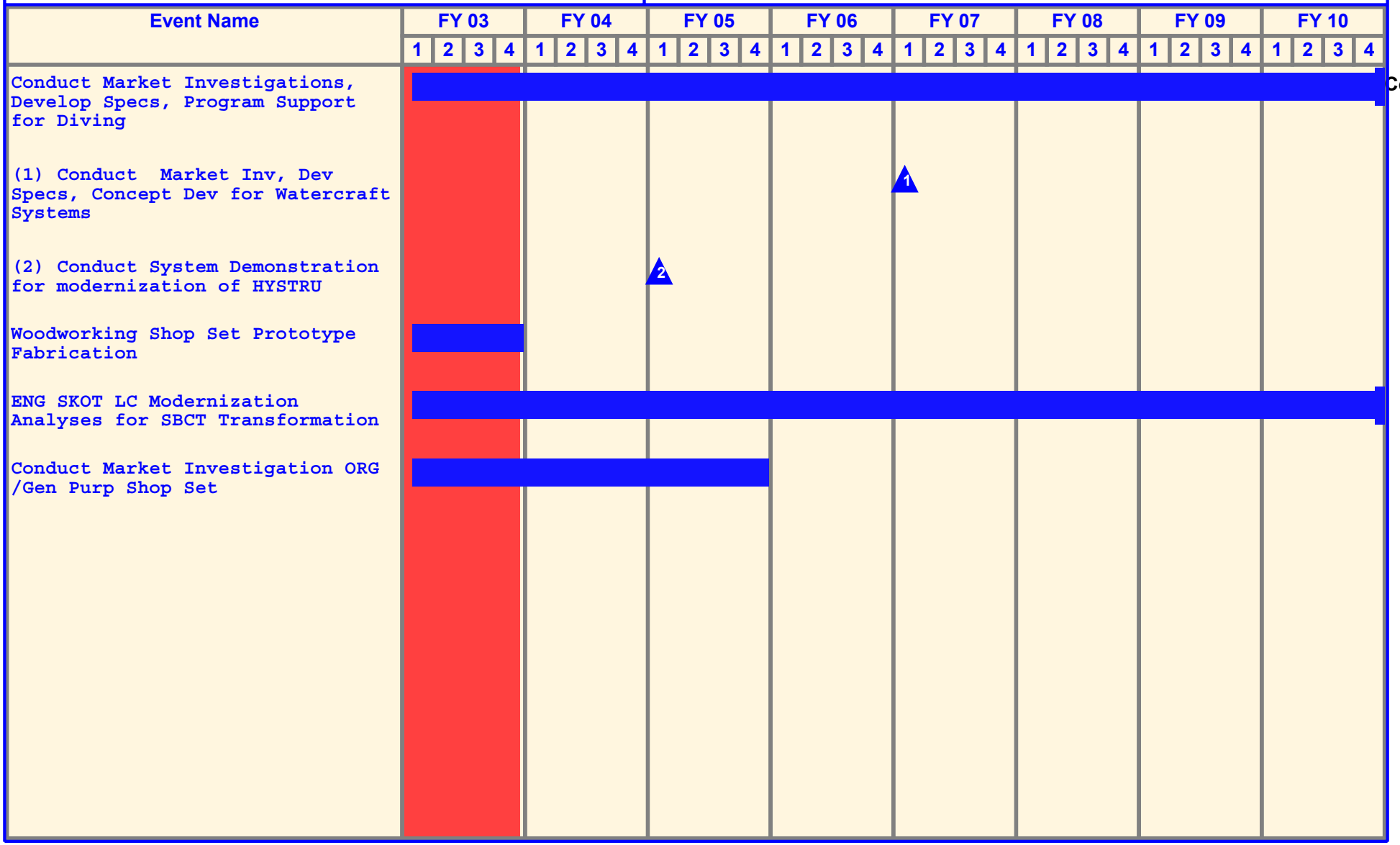
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L43**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L43** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct market investigation, develop performance specs, and program support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Conduct market investigation, develop performance specs, and concept development for watercraft. | | 2Q | | | 1Q | | |
| Conduct Systems Demonstration for modernization of HYSTRU. | | 2Q | 1Q | | | | |
| Fabrication of prototype for woodworking shop. | 1-4Q | | | | | | |
| Life Cycle modernization analyses for ENG SKOT SBCT Transformation | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Conduct market investigation for Organizational / General Purpose Shop Set | 1-4Q | 1-4Q | 1-4Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L46** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 488 | 1181 | 1278 | 1378 | 1377 | 1426 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project supports systems development and demonstration within the Maintenance Support Equipment (MSE) arena for automotive tool sets, forward repair mobile maintenance systems, individual & unit tool kits, ground & aviation shop sets and allied trades SKO (Sets Kits and Outfits) and Tools used in support of Current-to-Future Force and Stryker Brigade Combat Team (SBCT) transition paths of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct Maintenance SKOT Modernization Improvements, Perf Spec Dev, Tech & Program support for Joint Expeditionary and Stryker Brigade Combat Team (SBCT) transition path of the Transformation Campaign Plan (TCP). | 0 | 300 | 1008 |
| Standard Automotive Tool System (SATS) advanced development. | 0 | 173 | 173 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 15 | 0 |
| Totals | 0 | 488 | 1181 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L46** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| ML5345 - Maint Items Less Than $5M, DL5110, MA9650 - Maint Less Than $5M,D164,D615,M627 | 5428 | 3972 | 5439 | 6631 | 7904 | 7181 | 7532 | Continuing | Continuing |

**C. Acquisition Strategy:** Programs will progress from System Development and Demonstration(SDD) and transition into production.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L46**

| 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 . MSE LC Configuration Analyses and Initial Capabilities Document (ICD) Development Support | In-House | PM SKOT Rock Island | 0 | 0 | | 171 | 1-2Q | 398 | 1-2Q | Continue | 569 | Continue |
| b . Standardized Automotive Tool System Prototype Dev | In-House | PM SKOT Rock Island | 0 | 0 | | 173 | 2Q | 173 | 1Q | Continue | 346 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 344 | | 571 | | Continue | 915 | 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 . Life Cycle Configuration Analyses & ICD Dev | In-House | PM SKOT Rock Island | 0 | 0 | | 15 | 1-2Q | 37 | 1-2Q | Continue | 52 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 15 | | 37 | | Continue | 52 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L46**

| 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 . Configuration Analyses ( ICD for Allied Trades) | MIPR | CASCOM Ord Cntr & School, Ft Lee | 0 | 0 | | 0 | | 430 | 1-2Q | Continue | 430 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 430 | | Continue | 430 | 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 . Conduct SKO Modernization Efforts | | | 0 | 0 | | 129 | 1-2Q | 143 | 1-2Q | 0 | 272 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 129 | | 143 | | 0 | 272 | 0 |
| Project Total Cost: | | | 0 | 0 | | 488 | | 1181 | | Continue | 1669 | Continue |

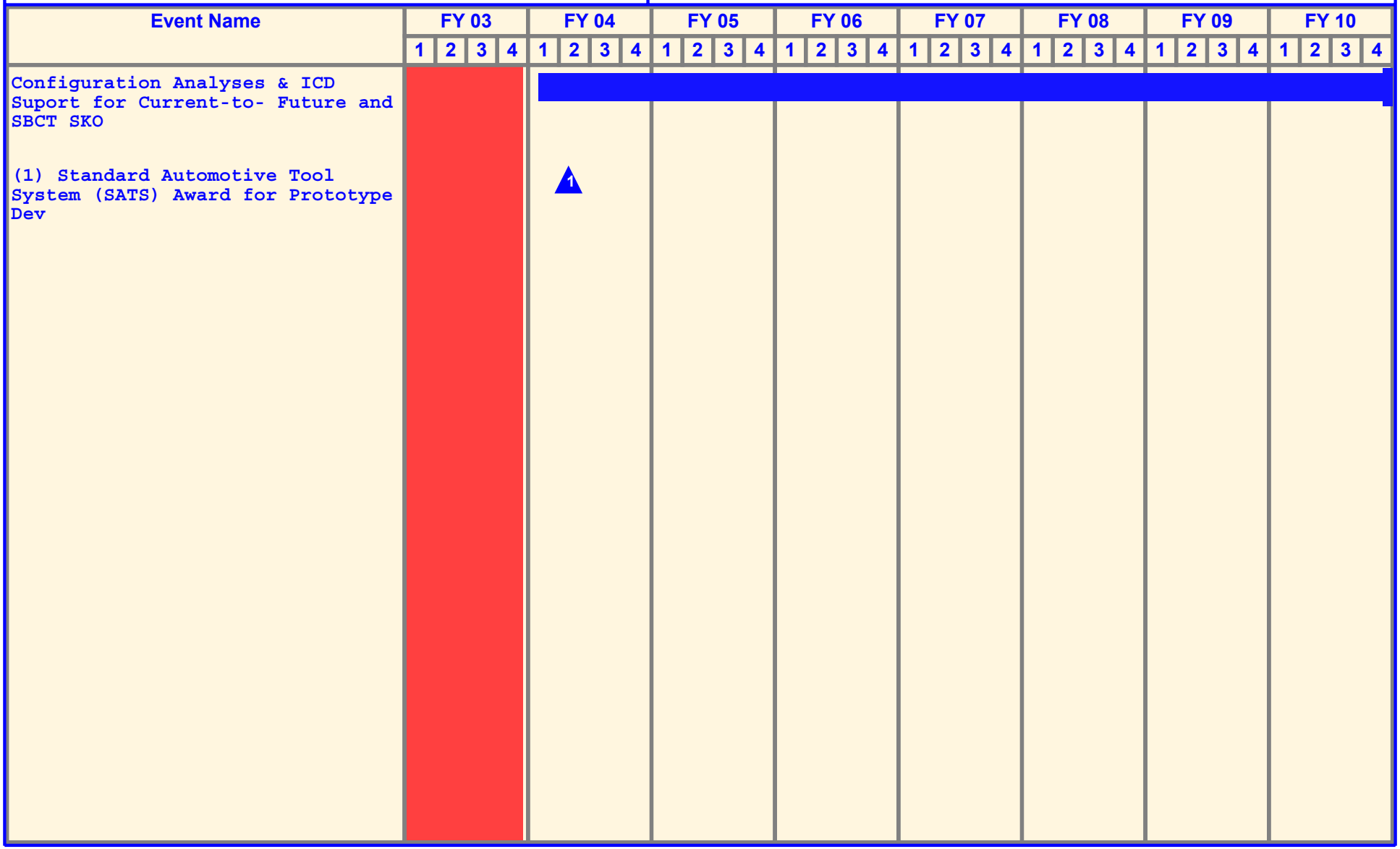
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604804A - Logistics and Engineer Equipment - Eng Dev**

PROJECT
**L46**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604804A - Logistics and Engineer Equipment - Eng Dev** | **L46** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Configuration Analyses for Current-to-Future and SBCT SKO and ICD Support | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Standard Automotive Tool Systems (SATS) Award for Prototype Dev | | 2Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 89465 | 216811 | 219790 | 173555 | 135195 | 55590 | 22896 | 0 | 1083728 |
| 097 | INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST | 1648 | 2322 | 0 | 0 | 0 | 0 | 0 | 0 | 8010 |
| 485 | INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT | 4218 | 5619 | 2614 | 3507 | 4355 | 3440 | 3678 | 0 | 34817 |
| 589 | ARMY SYS ENGINEERING & WARFIGHTING TECH SUP | 8033 | 3340 | 5963 | 6024 | 6294 | 5615 | 5712 | 0 | 57277 |
| 591 | WPN SYS TECH ARCH (WSTA) | 2229 | 669 | 585 | 583 | 582 | 583 | 583 | 0 | 10497 |
| 615 | JTRS-GROUND DOMAIN INTEGRATION | 60659 | 202148 | 101770 | 61578 | 41322 | 14616 | 2674 | 0 | 600422 |
| 61A | JTRS CLUSTER 5 DEVELOPMENT | 0 | 0 | 100605 | 94522 | 75311 | 25454 | 3960 | 0 | 299852 |
| 629 | TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL | 12678 | 2713 | 0 | 0 | 0 | 0 | 0 | 0 | 37757 |
| F99 | NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT | 0 | 0 | 8253 | 7341 | 7331 | 5882 | 6289 | 0 | 35096 |

**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 Interoperability and Standards Compliance Experimentation and Testing. 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 FY04, Project D615 supports the JTRS Cluster 1 and Cluster 5 Programs. In FY05, Project D615 supports the Cluster 1 program. In FY05, Project D61A supports JTRS Cluster 5 program. This project provides for the development of three discrete radio form factors: Handheld; Manpack (including vehicular mounted); and Small Form Fit (SFF) embedded applications. 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 89546 | 219088 | 162970 |
| Current Budget (FY 2005 PB) | 89465 | 216811 | 219790 |
| Total Adjustments | -81 | -2277 | 56820 |
| Congressional program reductions | | -2060 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -81 | 5897 | |
| SBIR/STTR Transfer | | -6114 | |
| Adjustments to Budget Years | | | 56820 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **097** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 1648 | 2322 | 0 | 0 | 0 | 0 | 0 | 0 | 8010 |

**A. Mission Description and Budget Item Justification:** Interoperability and Standards Compliance Experimentation & Testing: The increased combat power of the Future 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 C4ISR systems, through the conduct of Army interoperability assessments and Joint Technical Architecture (JTA) standards compliance testing. This project, in accordance with the TCP, "establishes a mechanism to ensure all digitally capable material, including the Future 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 Current to Future transition path of the Transformation Campaign Plan (TCP) and towards the Future Combat System (FCS).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Provide external DIL connectivity to remote battlefield digitization sites for digitization experimentation and tests. | 100 | 350 | 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. | 0 | 750 | 0 |
| 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 Future Force development. | 392 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Acquire/update DIL hardware and software interfacing systems, test tools, and supporting C4ISR systems for SDD, FDC, and Future Forces. | 0 | 150 | 0 |
| Acquire DIL automated scenario drivers and test analysis tools for SDD, FDC and Future Force evaluations TA/SA evaluations | 0 | 112 | 0 |
| Combat Net Radio (CNR) Protocol Test Tool (Monitor/Decoder) development to support Sync Mode, common PTT components | 49 | 0 | 0 |
| CNR Protocol Test Tool (Conformance Tester V5) development; develop latest approved version of CNR standard. | 35 | 0 | 0 |
| CNR Protocol Test Tool (Network Analyzer V4) development; supports Net troubleshooting & Net performance. | 35 | 0 | 0 |
| VMF Test Tool development and On site support | 50 | 0 | 0 |
| Develop/Field VMF Reissue 6 VMF tool database | 55 | 0 | 0 |
| VTT Message Generation Scripting | 45 | 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 Future Force. | 0 | 220 | 0 |
| Evaluate and certify IT/C4ISR systems interoperability for FDD, Future Force, Joint experiments to assure compliance with the Technical and System Architectures. | 0 | 560 | 0 |
| Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations. | 0 | 180 | 0 |
| Army Enterprise Applications Architecture (AEAA) - Developed and published the Enterprise Applications Architecture (EAA) Guidance Document version 1.0 which identified to-be software architecture patterns and provided a proposed migration plan. | 887 | 0 | 0 |
| Totals | 1648 | 2322 | 0 |

**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(R3)

**February 2004**

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 | 319 | 1-4Q | 650 | | 0 | | Continue | 4335 | 0 |
| b . Travel | In House | USACECOM, Fort Monmouth, NJ | 79 | 7 | 1-4Q | 50 | | 0 | | Continue | 136 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3445 | 326 | | 700 | | 0 | | Continue | 4471 | 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 | 342 | 1-2Q | 1200 | 1-2Q | 0 | | Continue | 4603 | 0 |
| b . Development Support | C/CPFF | CSC, Fort Monmouth, NJ | 607 | 0 | | 100 | 1-2Q | 0 | | Continue | 707 | 0 |
| c . Development Support | C/CPFF | C3I, Fort Monmouth, NJ | 908 | 93 | 1-2Q | 200 | 1-3Q | 0 | | Continue | 1201 | 0 |
| d . Security Engineering | C/CPFF | Nations, Fort Monmouth, NJ | 111 | 0 | 1Q | 0 | | 0 | | Continue | 111 | 0 |
| e . Equipment | FFP | USA CECOM, NJ | 753 | 0 | 1-4Q | 122 | 1-4Q | 0 | | Continue | 875 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Development Support | C/CPFF | BAH, Fort Monmouth, NJ | 40 | 0 | 1-4Q | 0 | | 0 | | Continue | 40 | 0 |
| g . Development Support | C/FP | Binary Consulting Inc. Bethesda, MD | 0 | 887 | 2Q | 0 | | 0 | | 0 | 887 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5480 | 1322 | | 1622 | | 0 | | Continue | 8424 | 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(R3)

**February 2004**

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: | | | 8925 | 1648 | | 2322 | | 0 | | Continue | 12895 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **485** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 4218 | 5619 | 2614 | 3507 | 4355 | 3440 | 3678 | 0 | 34817 |

**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 Future 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 Future Force (FF) C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) Systems." It identifies and reduces interoperability issues earlier in the life cycle by intra-Army/FF/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 Current to Future transition path of the Transformation Campaign Plan (TCP).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **485** |

| **Accomplishments/Planned Program** | 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 | 70 | 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 Future Force. | 72 | 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 Current to Future Force Transformation. | 300 | 433 | 350 |
| Develop/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Current to Future Force Transformation. | 300 | 450 | 350 |
| Joint approval of 50-200 Variable Message Format (VMF) change proposals to support warfighting interoperability during the Current to Future Force Transformation. Change proposal also includes requirements for Homeland Defense (i.e. Nuclear/Biological & Chemical, security, etc) Interoperability and Software Blocking/Unit Set Fielding. | 390 | 500 | 400 |
| 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. | 77 | 200 | 71 |
| Chair the VMF Integrated database IPT. Including the development and maintenance of the VID QA consistency tool & automated distribution mechanism. | 0 | 100 | 52 |
| 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. | 150 | 200 | 97 |
| Evaluate, process and obtain approval of 1100-1200 Air defense TADILs & ground operation USMTF change proposals incorporating crucial Ground, Air Defense, Intel & Commander requirements. | 600 | 550 | 287 |
| 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 | 700 | 0 | 0 |
| 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. | 45 | 50 | 24 |
| 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. | 20 | 191 | 130 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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. | 90 | 0 | 0 |
| 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. | 275 | 270 | 131 |
| 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. | 50 | 89 | 42 |
| 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. | 150 | 203 | 104 |
| 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. | 150 | 203 | 104 |
| 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. | 387 | 400 | 207 |
| 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, ISCCB SOP development, & SWB architecture CM web site development. | 387 | 425 | 202 |
| Develop and engineer OSD Global Information Grid/Network Centric Enterprise Services (GIG/NCES) messaging requirements and serve as Army focal point for messaging working group. | 5 | 4 | 63 |
| Army Enterprise Applications Architecture (AEAA) - Developed and published the Enterprise Applications Architecture (EAA) Guidance Document version 1.0 which identified to-be software architecture patterns and provided a proposed migration plan. | 0 | 46 | 0 |
| Knowledge Center Development - Provided Army Architects access to key policies and directives and provided a collaboration mechanism for them to utilize. | 0 | 1198 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 107 | 0 |
| Totals | 4218 | 5619 | 2614 |

**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(R3)

**February 2004**

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 | 1765 | 1-4Q | 2002 | 1-4Q | 1215 | 1-4Q | Continue | 12674 | 0 |
| b . Travel | In House | USACECOM, Fort Monmouth, NJ | 226 | 50 | 1-4Q | 70 | 1-4Q | 111 | 1-4Q | Continue | 457 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7918 | 1815 | | 2072 | | 1326 | | Continue | 13131 | 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 | 410 | 1-4Q | 0 | | 0 | | 0 | 5699 | 0 |
| b . Development Support | C/CPAF | Telos, Fort Monmouth, NJ | 4581 | 0 | | 0 | | 0 | | 0 | 4581 | 0 |
| c . Development Support | C/CPFF | CSC, Fort Monmouth, NJ | 1963 | 0 | | 0 | | 0 | | 0 | 1963 | 0 |
| d . Development Support | C/CPFF | C3I, Fort Monmouth, NJ | 1374 | 0 | | 0 | | 0 | | 0 | 1374 | 0 |
| e . Development Support | SS/CPFF | Mitre, Fort Monmouth, NJ | 280 | 0 | | 0 | 3-4Q | 0 | | 0 | 280 | 0 |
| f . Development Support/ Army Enterprise Applications Architecture | C/T&M | Binary, Ft. Belvoir, VA | 0 | 0 | | 46 | 4Q | 0 | | 0 | 46 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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-Knowledge Center | C/T&M | ITEL, Ft Monmouth, NJ | 0 | 0 | | 1198 | 2Q | 0 | | 0 | 1198 | 0 |
| h . Development Support | C/T&M | ITEL, Ft Monmouth, NJ | 0 | 897 | 2Q | 1121 | 2Q | 622 | 2Q | Continue | 2640 | 0 |
| i . Development Support | C/T&M | Northrop Grumman (SEC SSES), Ft Monmouth, NJ | 0 | 871 | 2Q | 1102 | 2Q | 606 | 2Q | Continue | 2579 | 0 |
| j . Technical Support | C/CPFF | TFE, Fort Monmouth, NJ | 0 | 25 | 2-3Q | 40 | 2-3Q | 30 | 2-3Q | Continue | 95 | 0 |
| k . Technical Support | C/CPFF | Marconi, Fort Monmouth, NJ | 183 | 0 | | 0 | | 0 | | 0 | 183 | 0 |
| l . Equipment | In House | USACECOM, NJ | 375 | 40 | 4Q | 40 | 4Q | 30 | 4Q | Continue | 485 | 0 |
| m . Equipment (Development Support) | C/FFP | GTE, Tauton, MA | 106 | 0 | | 0 | | 0 | | 0 | 106 | 0 |
| n . Telecommunications | MIPR | USASC, Fort Huachuca, AZ | 985 | 160 | 2Q | 0 | | 0 | | Continue | 1145 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15136 | 2403 | | 3547 | | 1288 | | Continue | 22374 | 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(R3)

**February 2004**

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 | 4218 | | 5619 | | 2614 | | Continue | 35505 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **589** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 8033 | 3340 | 5963 | 6024 | 6294 | 5615 | 5712 | 0 | 57277 |

**A. Mission Description and Budget Item Justification:** The Army Systems Engineering Office (ASEO) provides essential subject matter expertise and systems engineering critical to the transformation of the Army from the current force to the Future Force. The ASEO is primarily engaged in defining and integrating the Army Enterprise Architecture (AEA) and its many components, which extend from tactical levels up through operational and strategic components of the Army Battle Command Architecture (ABCA), as well as, the institutional portions of the Enterprise to include the Army's Business Enterprise Architecture (BEA). The ASEO supports the Army CIO/G6 Architecture Integration Cell (AIC) in establishing an integrated AEA framework that complements, and is a natural extension of, the GIG-Enterprise Services (GIG-ES). In addition, the ASEO is an essential contributor in the development of the JBMC2 integrated architecture, the Battle Command "Good Enough" architecture, and emerging Cross-Service Integrated Architecture efforts. Each of these architecture definition and integration efforts is elemental to achieving the Army's goal of a NetCentric Future Force.
The Joint Technical Architecture (JTA) and JTA-Army (JTA-A) have, in the past, provided the foundation for designing, building, fielding and supporting Joint interoperable Army systems in an expedient and cost-effective manner. The ASEO is the Army's driving force behind the technical content of the JTA-A and serves as the Army's representative to the JTA community, ensuring Army requirements are adequately captured and reflected in that baseline. The ASEO identifies emerging standards in support of the integration of new technologies into existing Army systems and Advanced Technology Demonstrations/Advanced Concept Technology Demonstrations (ATD/ACTDs), enabling the Army transformation to the Future Force. The ASEO's work efforts in the development and maintenance of JTA and JTA-A baselines are critical path elements to achieve transformation, increase joint interoperability and to provide the future Army with the ability to fight and win on tomorrow's battlefields. However, the Technical Architecture (TA) alone only provides the foundation for interoperability. Integrated Army Enterprise Architectures (e.g., ABCA, BEA, etc.) fuse Operational, Systems and Technical views of the Army Enterprise into cohesive and manageable information sets that allow the Army to make consequent decisions regarding the Army's inventory of present and future systems and their associated funding. In this area the ASEO specializes in defining and exploiting (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.
The allocated resources fund two support efforts for CIO/G6. First, subsequent to the development of the AKEA (Army Knowledge Enterprise Architecture) Guidance Document, V1.1, the effort has shifted to development of the Army Technical Reference Model (TRM) for information broker/mediation services, and mapping the Army's architecture requirements to DOD Net-Centric Operations and Warfare Reference Model, including NCES (Net-Centric Enterprise Services). Second, support of the design, development, deployment and maintenance of the AAIC (Army Architecture Integration Cell) Web-based Knowledge Center continues with increased development requirements and functionality, including the consolidation of architectural repositories, design of the DARS-A (Defense Architecture Repository-Army) database, and acting as the Army's agent for DARS/DARS-A. This program supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP) to include HLS.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conducted major design evaluations for Joint Technical Architecture-Army (JTA-A) Interoperability. System Implementations for 03: WIN-T, Theater High Altitude Air Defense (THAAD), Joint Tactical Radio System (JTRS), Future Combat Systems (FCS), Advanced Threat Infrared Countermeasures (ATIRCM/CMWS),Land Warrior Redesign, MOSAIC, Agile Commander,Advanced Precision Kill Weapons System (APKWS), Defense Advanced GPS Receiver (DAGR), Depoyable Joint Command & Control (DJC2), Joint Mission Planning System (JMPs), Future Force Warrior (FFW). | 1092 | 0 | 0 |
| Ensured JTA-A Interop Implementation and Assess JTA-A compatibility for Army, Science & Technology and PEO/PM programs to ensure they have an executable and effective strategy for implementing JTA-A mandated standards in their systems. Ensured JTA-A system level profiles were sufficient to promote Army and Joint system-to-system interoperability, supporting the interoperability analysis of Army system designs and provided analysis of JTA-A waivers. SSEBS/RFPs supported in 03: WIN-T,Joint Tactical Radio System (JTRS), Future Combat System (FCS),SPIDER, Reserve Component Automation System (RCAS), BLACKHAWK, Advanced Threat Infrared Countermeasures (ATIRCM/CMWS), LAND WARRIOR, VOLCANO, COMMANCHE, Distance Learing System (DLS), High Mobility Artillery Rocket System (HIMARS), Ground Standoff Minefield Detection System (GSTAMIDS),Enhanced Bandwidth Efficient Modem (EBEM). | 1067 | 0 | 0 |
| Assessed JTA-A interoperability for Army Systems. AD Hoc Assessments. | 700 | 0 | 0 |
| Technically influence the development/implementation of Joint Technical Architecture (JTA). FY03 accomplishements: JTA Versions 5.x, 6.0 restructured and aligned with Net-Centric Philosophy and redefined scope and standards applicability. Planned activities: JTA-A version 7.0, 7.5 to include major revision of Information Security Section, to include results of Tactical Imagery Transport Study | 710 | 185 | 555 |
| Investigate information technical standards for inclusion in JTA-A/JTA. Global Information Grid (GIG) Technologies (XML, JPEG 2000, MPEG 4, IPV6) | 600 | 162 | 0 |
| Maintain subject matter expertise on existing JTA and JTA-A Information Technology (IT) standards' mandates to ensure current and future force systems remain interoperable. Ensure a logical and cost-effective evolution of TA baselines while maximizing Joint interoperability. Incorporate emerging open standards-based commercial technologies to influence future force systems. Ensure that open commercial standards adopted by Future Force enabling systems are reflected in the JTA-A baseline. | 570 | 1827 | 1850 |
| JTA-A Compliance-ensure Program Managers have an executable and effective strategy for implementing the JTA-A. | 0 | 370 | 823 |
| Validate/Integrate Army Enterprise Technical Views to enable the Army Technical Architect (CIO/G6) to monitor, assess and control the inherent risks associated with leveraging continuously changing technologies across all Army Enterprise Functionals/PEO/Communities. | 0 | 210 | 822 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| As a result of the decision agreed to at the 19 Dec 02 Army Knowledge Enterprise Architecture (AKEA), General Officer Steering Committee (GOSC)meeting, CECOM/CERDEC was directed to transfer MU17 RDTE funding to DA G2, DA CIO/G6 and PEO Command, Control and Communications,Tactical (C3T). The transfer included $983,000 from PE 0604805A,Project 589 as well as other funding. (Ref Memorandum, SAIS-IOE,undated (S:15 Feb 03), Subject: MU17 FY03/FY04 Architectural Funding Re-Allocations to CECOM) | 983 | 0 | 0 |
| As a result of the decision agreed to at the 19 Dec 02 AKEA, GOSC, direction of MU17 funding was realigned to support the Protocols Investigation for the Next Generation (PING) program. The PING supported current technology agreements with various technology developers such as HP, Cisco, Microsoft and Telecordia. In addition, PING represented the ARMY CIO/G6 office at various ASD (NII)/DoD CIO meetings discussing DoD IPv6 policy and Transisition Planning, participated with JITC at DISA's Def Interop Comm Exercise 2003 (DICE 2003) demonstrating IPv6 interoperability, active member of DoD IPv6 Test Bed evaluating and testing IPv6 benefits and trade-offs, first Army lab participating with North American IPv6 Task Forces MoonV6 initiative, drafted ARmy's Phase I IPv6 Transition plan and initial transition strategy to migrate Army systems and networks to native IPv6 by FY08 in compliance with DoD policy,prepared evaluation criteria for selecting early IPv6 adopter candidates in support of the Army GIO/G6 office, hosted first Army IPv6 data call to collect systems impact information and baseline on Army IPv6 transition plan, provided IPv6 technical guidance and knowledge to the Army acquisition community. | 433 | 0 | 0 |
| Knowledge Center Development - Provided Army Architects access to key policies and directives and provided a collaboration mechanism for them to utilize. | 849 | 0 | 731 |
| Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them. | 0 | 568 | 1913 |
| Incorporated Command and Control application into Defense Collaborative Tool Suite (DCTS) Application by establishing Army focus for Commercial product integration into the Joint Architecture. Evaluate DCTS emerging certified suites and use R&D testbed to assist vital Army community rations of collaboration applications. Serve as Army Technical Lead supporting DCTS evolution with Collaboration Interoperability Working Group (CIWG) and Global Information Grid/Net-Centric Enterprise Services (GIG/NCES) DoD Working Groups Assessed C4ISR architectural performance in Joint Experimentation . | 1029 | 0 | 0 |
| Army Enterprise Applications Architecture (AEAA) - Develop and publish the Enterprise Applications Architecture (EAA) Guidance Document which identifies to-be software architecture patterns and provides a proposed migration plan | 0 | 0 | 342 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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 Current to Future Force Transformation. | 0 | 0 | 106 |
| Develop/Joint approved new Variable Message Format (VMF) messages to support interoperability during the Current to Future Force Transformation. | 0 | 0 | 145 |
| Joint approval of 50-200 Variable Message Format (VMF) change proposals to support warfighting interoperability during the Current to Future Force Transformation. Change proposal also includes requirements for Homeland Defense (i.e. Nuclear/Biological & Chemical, security, etc) Interoperability and Software Blocking/Unit Set Fielding. | 0 | 0 | 154 |
| 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. | 0 | 0 | 45 |
| Chair the VMF Integrated database IPT. Including the development and maintenance of the VID QA consistency tool & automated distribution mechanism. | 0 | 0 | 33 |
| 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. | 0 | 0 | 62 |
| Evaluate, process and obtain approval of 1100-1200 Air defense TADILs & ground operation USMTF change proposals incorporating crucial Ground, Air Defense, Intel & Commander requirements | 0 | 0 | 183 |
| 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 | 0 | 0 | 15 |
| 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 | 83 |
| 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 | 49 |
| 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 | 27 |
| 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 | 20 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| 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 | 20 |
| 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 | 23 |
| 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, ISCCB SOP development, & SWB architecture CM web site development. | 0 | 0 | 25 |
| Develop and engineer OSD Global Information Grid/Network Centric Enterprise Services (GIG/NCES) messaging requirements and serve as Army focal point for messaging working group. | 0 | 0 | 2 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 18 | 0 |
| Totals | 8033 | 3340 | 8028 |

**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(R3)

**February 2004**

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, DCTS, PING/03 only, Fort Monmouth, NJ | 7895 | 2553 | 1-4Q | 1424 | 1-4Q | 1978 | 1-4Q | Continue | 13850 | 0 |
| b . Contract Support | C & T&M-R | C3ISGI, Tinton Falls, NJ | 2830 | 250 | | 0 | | 0 | | 0 | 3080 | 0 |
| c . Contract Support | C & FP | TRW, Domingues Hills, CA | 1281 | 0 | | 0 | | 0 | | 0 | 1281 | 0 |
| d . Overhead | | ASEO/WTS CECOM, Fort Monmouth, NJ | 1422 | 0 | | 0 | | 0 | | 0 | 1422 | 0 |
| e . Contract Systems Engineering Support | C & FP | Battelle, Alexandria, VA | 354 | 0 | | 0 | | 0 | | 0 | 354 | 0 |
| f . System Development and Integration | MIPR | PEO C3S, PM TOCS, Fort Monmouth, NJ | 25 | 0 | | 0 | | 0 | | 0 | 25 | 0 |
| g . Travel | In House | SEC, USACECOM, Ft. Monmouth, NJ | 0 | 0 | | 0 | | 20 | 1-4Q | 0 | 20 | 0 |
| h . Development Support | C/T&M | Northrop Grummon (SEC SSES), Ft. Monmouth, NJ | 0 | 0 | | 0 | | 50 | 2Q | 0 | 50 | 0 |
| i . Contract Systems Engineering Support | C & FP | SRI, Menlo Park, CA | 0 | 199 | 3-4Q | 0 | | 0 | | 0 | 199 | 0 |
| j . Labor (Internal Government) | In House | SEC, USACECOM, Ft. Monmouth, NJ | 0 | 0 | | 0 | | 867 | 1-4Q | 0 | 867 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| k . Equipment | In House | USACECOM, NJ | 0 | 0 | | 0 | | 5 | 4Q | 0 | 5 | 0 |
| l . Development Support | C & TM | ITEL, Mays Landing, NJ | 0 | 0 | | 0 | | 50 | 2Q | 0 | 50 | 0 |
| m . Contract Support | C & FP | Lockheed Martin, Eatontown, NJ | 545 | 0 | | 0 | | 0 | | 0 | 545 | 0 |
| n . Development Support - Army Enterprise Applications Architecture | C/T&M | Binary, Ft. Belvoir, VA | 0 | 0 | | 0 | | 342 | 3-4Q | 0 | 342 | 0 |
| o . Contract Support | C & T&M | SAIC, Falls Church, VA | 1511 | 300 | 2Q | 0 | | 0 | | 0 | 1811 | 0 |
| p . Contract Systems Engineering Support | C & FP | SRC, Atlanta, GA | 612 | 0 | | 0 | | 0 | | 0 | 612 | 0 |
| q . Contract Systems Engineering Support | SS & FP | MITRE, Tinton Falls, NJ | 5552 | 1630 | 1Q | 275 | 1-2Q | 1650 | | 0 | 9107 | 0 |
| r . Systems Engineering and Integration | MIPR | WTS - ISIO CECOM, Fort Monmouth, NJ | 2341 | 0 | | 0 | | 0 | | Continue | 2341 | 0 |
| s . Contract Support | C & T&M | Datron, Simi Valley, CA | 305 | 0 | | 0 | | 0 | | 0 | 305 | 0 |
| t . Contract Systems Engineering Support | C & FP | Gemini, Billerica, MA | 137 | 0 | | 0 | | 0 | 2Q | 0 | 137 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Development Support-Knowledge Center | C & TM | ITEL, Mays Landing, NJ | 0 | 849 | 2Q | 0 | | 731 | 2Q | 0 | 1580 | 0 |
| v . Contract Support | IPA Agreement | Rutgers University, New Brunswick, NJ | 378 | 150 | 1-4Q | 0 | | 0 | | 0 | 528 | 0 |
| w . Contract Systems Engineering Support | C & FP | Suntek Systems, Eatontown, NJ | 0 | 249 | 3Q | 211 | 1-2Q | 0 | | 0 | 460 | 0 |
| x . Contract Systems Engineering Support | C & FP | HTPi, Shrewsbury, NJ | 145 | 0 | | 0 | | 0 | | 0 | 145 | 0 |
| y . Contract Support | C & TM | Telos, Eatontown, NJ | 0 | 24 | 1Q | 0 | | 0 | | 0 | 24 | 0 |
| z . Engineering Support | MIPR | ISEC, Fort Huachuca, AZ | 1357 | 0 | 1Q | 0 | | 0 | | Continue | 1357 | 0 |
| aa. Contract Support | C & TM | PTG/CACI, Eatontown, NJ | 0 | 26 | 2Q | 0 | | 0 | | 0 | 26 | 0 |
| bb. Contract Systems Engineering Support | C & FP | Litton, Reading, MA | 245 | 0 | | 0 | | 0 | | 0 | 245 | 0 |
| cc. Contract Support | C & FP | CSC, Eatontown, NJ | 1746 | 0 | | 0 | | 0 | | 0 | 1746 | 0 |
| dd. Contract Support | C & FP | Janus Research Group, Appling GA | 0 | 72 | 3Q | 0 | | 0 | | 0 | 72 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| dd. Contract Systems Engineering Support | C & FP | GTE/BBN, Cambridge, MA | 960 | 0 | | 0 | | 0 | | 0 | 960 | 0 |
| ee. Travel | In House | ASEO/WTS CECOM, Fort Monmouth, NJ | 1096 | 200 | 1-4Q | 80 | 1-4Q | 115 | 1-4Q | Continue | 1491 | 0 |
| ee. Contract Support | C & T&M | BAE, Tinton Falls, NJ | 139 | 0 | | 0 | | 0 | | 0 | 139 | 0 |
| ff. Contract Systems Engineering Support | C & FPI | CSC, Eatontown, NJ | 7002 | 1531 | 1-3Q | 1350 | 1Q | 2220 | 1-4Q | 0 | 12103 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 37878 | 8033 | | 3340 | | 8028 | | Continue | 57279 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**589**

| 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 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 37878 | 8033 | | 3340 | | 8028 | | Continue | 57279 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **589** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| TA - JTA-A 7.5 | | | 1Q | | | | |
| TA - JTA-A 7.0 | 2-4Q | 2Q | | | | | |
| TA - JTA 5.0 | 1-2Q | | | | | | |
| TA - JTA 6.0 | | 1-4Q | | | | | |
| SWB Shortfall Analysis | | 2Q | | | | | |
| AS-IS, AS-IS Plus Comms Analysis | | 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 | 2-4Q | | | | | | |
| Joint Blue Force System Analysis (JBFSA) Technical Views | | 1-4Q | | | | | |
| TA-JTA-A 8.0 | | | 2-4Q | | | | |
| TA-JTA 7.0 | | | 1-3Q | | | | |
| TRADOC BCBL DCTS Assessment | 4Q | | | | | | |
| DCTS Version 2 Phase 2 Testbed | 4Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **591** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 2229 | 669 | 585 | 583 | 582 | 583 | 583 | 0 | 10497 |

**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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Update the WSTA Framework | 0 | 0 | 0 |
| Interface Standards Analysis for WS Core Operating Environment (COE) | 0 | 0 | 0 |
| Define DII COE to WS COE Interfaces | 0 | 0 | 0 |
| Develop and Test Real-Time Computing WS COE API | 290 | 0 | 0 |
| Develop and Test Real-Time WS COE Mapping Services API | 0 | 0 | 0 |
| Modify and Test Embedded Battle Command (EBC) Software in WS COE | 0 | 0 | 0 |
| Develop, Test, and Certify a WSTA Security Architecture for WS COE | 0 | 0 | 0 |
| Support WS COE Family of API's Transistion to Industry and COTS | 271 | 247 | 244 |
| Develop updates to MIL-STD-2525B (Symbology) | 0 | 0 | 0 |
| Research, Define, and Input Unmanned WS Standards in JTA/JTA-A | 0 | 0 | 0 |
| Maintain and support update of WS Domain of the JTA/JTA-A | 64 | 171 | 170 |
| Engineering and Program Development Infrastructure | 564 | 251 | 171 |
| Funding not received | 1040 | 0 | 0 |
| Totals | 2229 | 669 | 585 |

**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(R3)

**February 2004**

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 | 64 | 2Q | 69 | 2Q | 70 | 2Q | Continue | 331 | 0 |
| b . TACOM-ARDEC | MIPR | Picatinny Arsenal, NJ | 1599 | 365 | 1-4Q | 163 | 1-4Q | 162 | 1-4Q | Continue | 2289 | 0 |
| c . TACOM-TARDEC | MIPR | Warren, MI | 2754 | 611 | 1-4Q | 223 | 1-4Q | 143 | 1-4Q | Continue | 3731 | 0 |
| d . GSA | MIPR | Huntsville, AL | 1480 | 74 | 1-4Q | 0 | | 0 | | 0 | 1554 | 0 |
| e . AMCOM-AMRDEC | MIPR | Redstone Arsenal, AL | 208 | 0 | 1-4Q | 167 | 1-4Q | 169 | 1-4Q | Continue | 544 | 0 |
| f . CSC (Nichols Research Corp) | C/CPFF | Huntsville, AL | 171 | 0 | | 0 | | 0 | | 0 | 171 | 0 |
| g . PEO AVN | MIP | Redstone Arsenal, AL | 0 | 25 | 1-4Q | 0 | | 0 | | 0 | 25 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 6340 | 1139 | | 622 | | 544 | | Continue | 8645 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 50 | 1-4Q | 47 | 1-4Q | 41 | 1-4Q | Continue | 821 | Continue |
| b . Funding not received at AMCOM | | | 0 | 1040 | | 0 | | 0 | | 0 | 1040 | 0 |
| Subtotal: | | | 683 | 1090 | | 47 | | 41 | | Continue | 1861 | Continue |
| Project Total Cost: | | | 7023 | 2229 | | 669 | | 585 | | Continue | 10506 | Continue |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **615** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 60659 | 202148 | 101770 | 61578 | 41322 | 14616 | 2674 | 0 | 600422 |

**A. Mission Description and Budget Item Justification:** Project D615 supports the Joint Tactical Radio System (JTRS)- Cluster 1 and Cluster 5 RDTE development efforts. 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. In FY04, the Army initiated the Cluster 5 (formerly known as Cluster X) program. This cluster encompasses the development and design of three discrete form factors: Handheld, Manpack (including vehicular mounted), and Small Form Fit (SFF) embedded applications to support Future Combat System and Operation Enduring Freedom requirements. Beginning in FY05, all Cluster 5 funding is contained within PE 0604805A, Project D61A. These systems support the Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| JTRS Product Development (JTRS Step 2C Contract) | 0 | 0 | 0 |
| JTRS Product Development (JTRS Cluster 1 Vehicular and Airborne Hardware Design and Development of Prototypes and technical engineering support) | 38113 | 137000 | 64806 |
| JTRS Product Development (JTRS Cluster procurement of up to 10 Vehicular and up to 14 Airborne pre-engineering models for Early Operational Assessment testing) | 9843 | 0 | 0 |
| JTRS Product Development (Cluster 1 Platform Installation Kit Development) | 0 | 5653 | 5748 |
| JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor) | 2080 | 8696 | 20210 |
| JTRS Management Services (JTRS Program Management Office Support) | 7122 | 10113 | 9220 |
| JTRS Support Costs (Systems Engineering and Technical Support) | 3093 | 3211 | 1786 |
| NTDRS Support Costs (NTDRS Testbed and Technical Support) | 408 | 0 | 0 |
| Initiate the development and design of an embeddable, dismountable form factor identified as Cluster 5 (formerly Cluster X) | 0 | 31615 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 5860 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 60659 | 202148 | 101770 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA, Army, JTRS Cluster 1, B90100* | 0 | 0 | 121452 | 136436 | 109171 | 101150 | 177147 | Continuing | Continuing |
| RDTE, JTRS, 0604280A/D162** | 62921 | 133293 | 121400 | 71221 | 57233 | 28573 | 27073 | Continuing | Continuing |
| RDTE, PEO AVN, JTRS A-Kit PE 64201/C97*** | 24483 | 44331 | 62964 | 55629 | 26748 | 36526 | 24130 | Continuing | Continuing |
| APA, PEO AVN, JTRS A-Kit Procurement AA0702/AA0700*** | 0 | 1892 | 0 | 19058 | 61545 | 55083 | 66189 | Continuing | Continuing |

Note: *This funding was previously contained as part of the BU1400 SSN and has been broken out into a separate funding line in this submission. ** Funding represents all Clusters. ***Other Procurement, Army funding is JTRS Cluster 1 only. Funding in line AA0702 for FY04 only. Funding is contained within AA0700 in FY05 and out.

**C. Acquisition Strategy:** Joint Tactical Radio System (JTRS): Project D615 supports JTRS Cluster 1 and Cluster 5 Army Software Development and Demonstration efforts, and JTRS Step 2C. In FY03, development and testing efforts for the Step 2C program were completed upon final delivery of 40 JTRS Step 2C Engineering Development Models, no further development activity is planned. The Army Project Manager Warfighter Information Network-Tactical (PM WIN-T) 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 simultaneous voice, data and video communications to increase interoperability, flexibility and adaptability in support of varied mission requirements is being developed. 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. The JTRS Cluster 1 supports an evolutionary acquisition strategy. 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 Software 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 System Integration Test (SIT)/Limited User Test (LUT) and Multi-Service Operational Test and Evaluation (MOT&E) testing for Cluster 1.

The JTRS Cluster 5 program has been structured to satisfy requirements for handheld, manpack, and small form fit embedded radios. Technical requirements are met over time, using spiral development. After an anticipated Milestone Review in 2QFY2004, a single contract is projected to be awarded in February 2004 for the development of the Cluster 5 system. The Cluster 5 program has been designated an ACAT 1C program. In FY04, Cluster 5 funding is contained in PE 0604805A, Project D615. Beginning in FY05, Cluster 5 funding transitions to PE 0604805A, Project D61A.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 25 | 3Q | 50 | 1-3Q | 0 | | Continue | Continue | 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 | 47039 | 1-3Q | 134235 | 1-3Q | 63903 | 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(R3)

**February 2004**

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 | 912 | 1-4Q | 2715 | 1-4Q | 903 | 1-4Q | Continue | Continue | 0 |
| k . ABCS System Engineering and Integration Efforts | Various | MISC | 1227 | 0 | | 0 | | 0 | | 0 | 1227 | 0 |
| l . Cluster 5 Design and Development** | CPAF | TBD | 0 | 0 | | 31615 | 2Q | 0 | | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 89360 | 47976 | | 174268 | | 70554 | | Continue | Continue | 9293 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370
**Cluster 5 efforts in FY05 and out are funded in PE 0604805A, Proj D61A

| 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 | 408 | 1-2Q | 0 | | 0 | | 0 | 7562 | 0 |
| b . JTRS Antenna Studies | PWD | ARINC, Annapolis, MD | 504 | 0 | | 0 | | 0 | | 0 | 504 | 0 |
| c . JTRS Technical Support | Various | Miscellaneous | 4204 | 3093 | 1-2Q | 3211 | 1-4Q | 1786 | 1-4Q | Continue | Continue | 0 |
| d . ABCS SE&I Effort | | | 1633 | 0 | 1-3Q | 0 | | 0 | | 0 | 1633 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**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 | 3501 | | 3211 | | 1786 | | 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 | 315 | 1-2Q | 1968 | 1-2Q | 1465 | 1-2Q | Continue | Continue | 0 |
| e . JTRS Test Inhouse Spt & Govt Activities | Various | Various | 747 | 665 | 1-3Q | 1566 | 1-3Q | 1332 | 1-3Q | Continue | Continue | 0 |
| f . JTRS EOA/DTOT Test Activity | | | 0 | 300 | 1-3Q | 3962 | 1-3Q | 16213 | 1-3Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2080 | | 8696 | | 20210 | | Continue | Continue | 0 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370
**Cluster 5 efforts in FY05 and out are funded in PE 0604805A, Proj D61A

| 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 | 3496 | 1-2Q | 3438 | 1-3Q | 1610 | 1-4Q | Continue | Continue | 0 |
| c . Project Management Office Support | Various | Various | 3729 | 2565 | 1-3Q | 5534 | 1-3Q | 6410 | 1-3Q | Continue | Continue | 0 |
| d . JTRS MITRE Support | PWD | MITRE Corp., Mclean, VA | 1407 | 1041 | 1Q | 1141 | 1Q | 1200 | 1Q | Continue | Continue | 0 |
| e . Small Business Innovative Research/Small Business Technology Transfer Programs | TBD | | 0 | 0 | 1-2Q | 5860 | | 0 | | 0 | 5860 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13971 | 7102 | | 15973 | | 9220 | | Continue | Continue | 0 |

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370
**Cluster 5 efforts in FY05 and out are contained in PE 0604805A, Proj 61A

| Project Total Cost: | | | 121952 | 60659 | | 202148 | | 101770 | | Continue | Continue | 9293 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

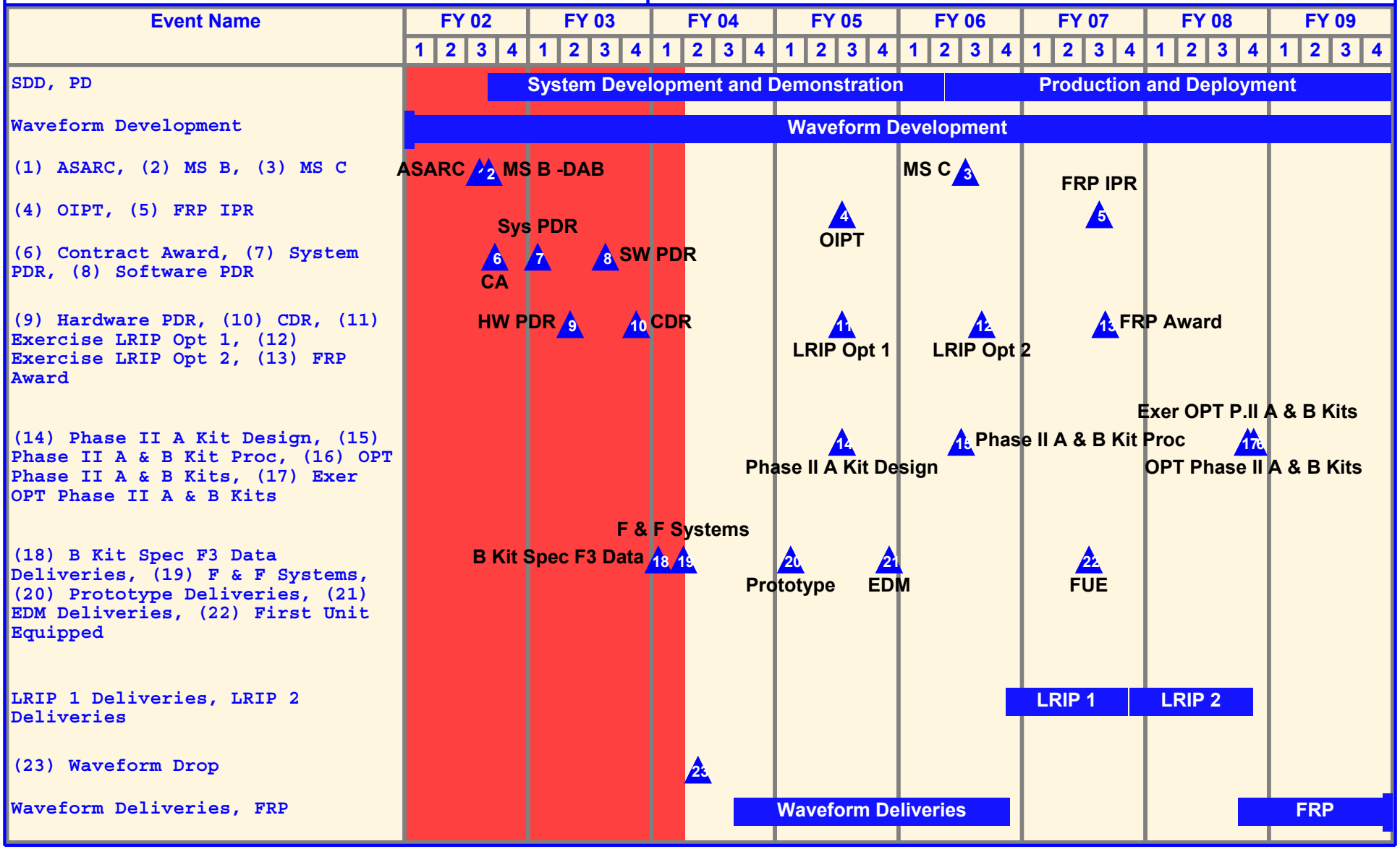
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**615**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **615** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| NTDRS CTSF ABCS Software Updates | | | | | | | |
| NTDRS Participation in Millennium Challenge 02 | | | | | | | |
| NTDRS Deployment to Brigade Combat Team 2 | | | | | | | |
| NTDRS Participation NTC/01-06/02-05/02-08/03-03/03-05/03-08 | 1-4Q | | | | | | |
| NTDRS Participation FBCB2 Field Test IV and V | | | | | | | |
| NTDRS Participation in FBCB2 IOT&E | | | | | | | |
| JTRS-Army Milestone B | | | | | | | |
| JTRS-Army Cluster 1 Ground & Airborne SDD Award | | | | | | | |
| JTRS-Army Step 2C EPG Testing/Validation | 1Q | | | | | | |
| JTRS-Early Operational Assessment | | | 1Q | | | | |
| JTRS Cluster 1 OIPT Approval to Exercise Option 1 | | | 3Q | | | | |
| JTRS-Army Cluster 1 LRIP Option 1 Contract Award | | | 3Q | | | | |
| JTRS-Army Cluster 1 Ground & Airborne System Integration Test/Limited User Test (LUT) | | | 4Q | 2Q | | | |
| JTRS Cluster 1 Milestone C | | | | 3Q | | | |
| JTRS-Army Cluster 1 Ground & Airborne MOT&E | | | | | 1-3Q | | |
| JTRS-Army Cluster 1 LRIP Option 2 Award | | | | 3Q | | | |
| LRIP Option 1 Deliveries Begin | | | | 4Q | | | |
| Full Rate Production In Process Review | | | | | 3Q | | |
| Full Rate Production Contract Award | | | | | 3Q | | |
| LRIP Option 2 Deliveries Begin | | | | | | 1Q | |
| Full Rate Production Deliveries | | | | | | 4Q | 1-4Q |
| Product Improvements | | | | | | 1-4Q | 1-4Q |
| Cluster 5 Milestone B | | 2Q | | | | | |
| Cluster 5 Contract Award | | 2Q | | | | | |
| Cluster 5 Spiral Design Readiness Review-Spiral 1 | | 4Q | | | | | |

Cluster 5 schedule profile detail for FY05-09 is contained within PE 0604805A Project D61A.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **61A** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| 61A | JTRS CLUSTER 5 DEVELOPMENT | 0 | 0 | 100605 | 94522 | 75311 | 25454 | 3960 | 0 | 299852 |

**A. Mission Description and Budget Item Justification:** Project 61A supports the Joint Tactical Radio (JTRS) Cluster 5 RDT&E development effort. JTRS is the Department of Defense (DOD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. JTRS will ultimately replace all existing tactical radios through the Services' migration plans and introduce new capabilities to the Warfighter. The JTRS Cluster 5 is a materiel solution for the requirements of the JTRS Operational Requirements Document (ORD) Version 3.2 and the JTRS Joint Program Office (JPO) mandated multi-channel Software Communications Architecture (SCA) compliant hardware system hosting SCA compliant software waveforms. The JTRS Cluster 5 program is comprised of three discrete form factors: Handheld, Manpack (including vehicular mounted), and Small Form Fit (SFF) embedded applications. JTRS Cluster 5 is structured to be synchronized with Future Combat Systems and Land Warrior program capabilities and timelines.

This is not a new start. Prior to FY05 the Cluster 5 program funding is captured within the PE 0604805A and in the Project 615 (JTRS Cluster 1).

This system supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| JTRS Cluster 5 Product Development of both spiral 1 and spiral 2 radios. | 0 | 0 | 72436 |
| JTRS Cluster 5 Test and Evaluation | 0 | 0 | 9054 |
| JTRS Cluster 5 Management Services (JTRS Program Management Office Support) | 0 | 0 | 16097 |
| JTRS Cluster 5 Support Costs | 0 | 0 | 3018 |
| Totals | 0 | 0 | 100605 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Joint Program Office (JPO) Waveform Certification | 62921 | 133293 | 121400 | 71221 | 57223 | 28573 | 27073 | Continuing | Continuing |

**C. Acquisition Strategy:** In accordance with the ADM approved 29 May 2003, the program has been structured to satisfy requirements for Handheld, Manpack and Small Form Fit embedded radios. Cluster 5 technical performance requirements are met over time, using spiral development. JTRS Cluster 5 will use JPO certified waveforms. There is no waveform development under the Cluster 5 program.

A single contract is projected to be awarded after a successful Milestone B scheduled for late February 2004 for the development of the Cluster 5 system. The contract will be structured to address the two spirals including options to purchase hardware for each spiral. Spiral 1 will meet JTRS ORD Version 3.2 Block 1 requirements developing single-channel handheld and two-channel manpack systems. Spiral 2 will meet JRS ORD 3.2 Block 2 requirements developing all form factors including twelve versions of a small form fit form factor.

The program is entering the acquisition lifecycle at Milestone (MS) B, System Development and Demonstration (SDD). The Milestone B Decision Review is planned for February 2004. A Cost Plus contract will be awarded in 2QFY04 following full and open competition.

There will be two Production Option Awards for Spiral 1 Limited Production, in FY06 and FY07. After Milestone C, there will be two LRIP Option Awards for Spiral 2 in FY07 and FY08. A competitive full rate production (FRP) contract award is scheduled for FY09.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**61A**

| 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 Cluster 5 Design, Development and Manufacture of Engineering Development Models (EDMs) | CPAF | TBD | 0 | 0 | | 0 | | 72436 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 72436 | | Continue | Continue | 0 |

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

| 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 . Training/Logistics | Various | Various | 0 | 0 | | 0 | | 3018 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 3018 | | Continue | Continue | 0 |

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**61A**

| 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 includes: Government Development Tests (GDT), Limited User Tests (LUT), and MOTE | Various | Various | 0 | 0 | | 0 | | 9054 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 9054 | | Continue | Continue | 0 |

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

| 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 Office Support | Various | Various | 0 | 0 | | 0 | | 9658 | 2Q | Continue | Continue | 0 |
| b . JTRS Business/Engineering Management | Various | Various | 0 | 0 | | 0 | | 6439 | 2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 16097 | | Continue | Continue | 0 |

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

| Project Total Cost: | | | 0 | 0 | | 0 | | 100605 | | Continue | Continue | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

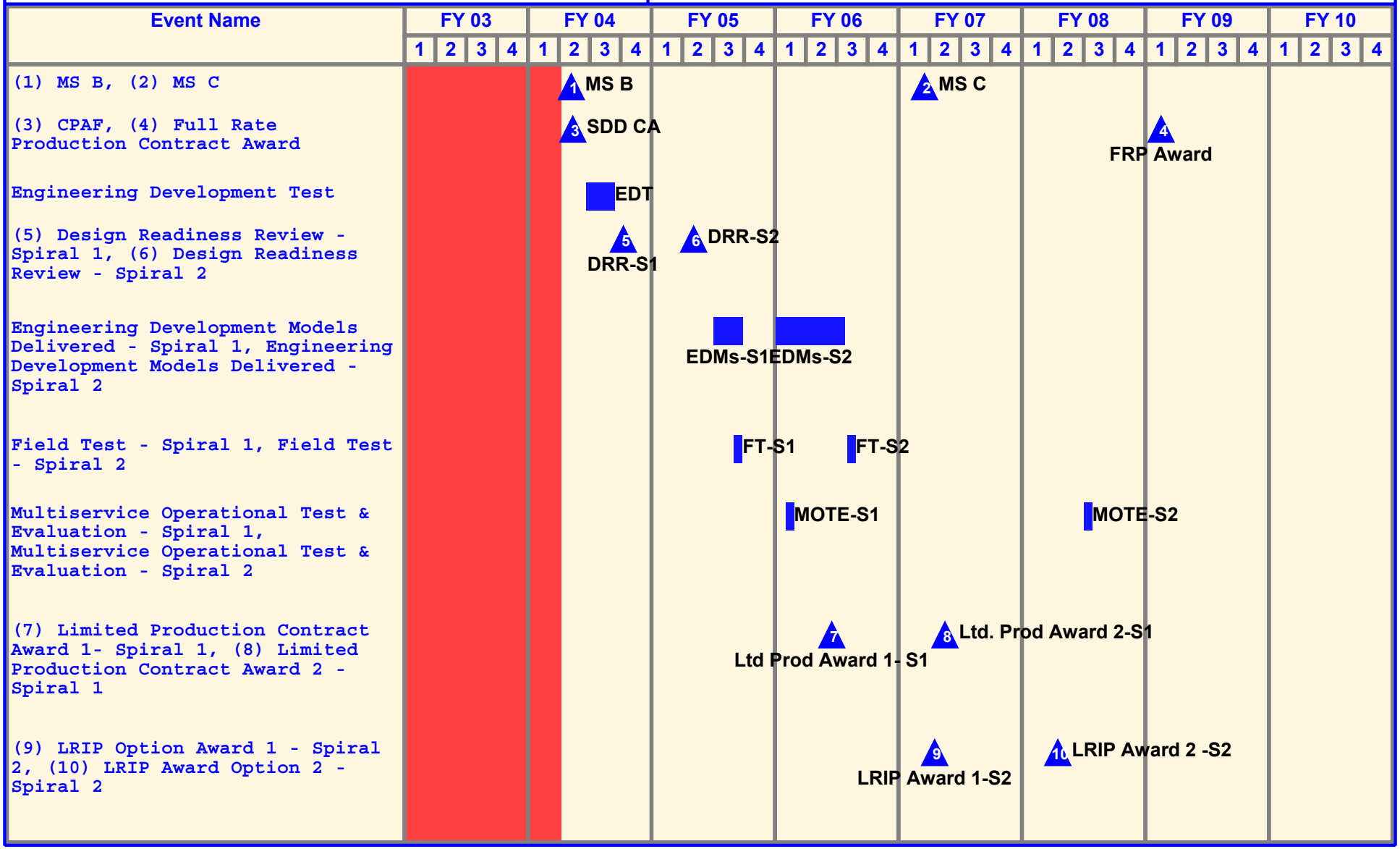
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**61A**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **61A** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Milestone B Decision | | 2Q | | | | | |
| SDD Contract Award | | 2Q | | | | | |
| Engineering Development Test - Spiral 1 | | 2-3Q | | | | | |
| Design Readiness Review - Spiral 1 | | 4Q | | | | | |
| Design Readiness Review - Spiral 2 | | | 2Q | | | | |
| Engineering Development Models (EDMs) Delivery - Spiral 1 | | | 3Q | | | | |
| Field Test - Spiral 1 | | | 3Q | | | | |
| MOTE - Spiral 1 | | | | 1Q | | | |
| Engineering Development Models (EDMs) Delivery - Spiral 2 | | | | 1-2Q | | | |
| Government Tests and Field Test - Spiral 2 | | | | 3Q | | | |
| MOTE - Spiral 2 | | | | | | 3Q | |
| Limited Production Award 1 - Spiral 1 | | | | 2Q | | | |
| Limited Production Award 2 - Spiral 1 | | | | | 2Q | | |
| LRIP Award 1 - Spiral 2 | | | | | 2Q | | |
| LRIP Award 2 - Spiral 2 | | | | | | 1Q | |
| Limited User Test (LUT) | | | | 4Q | | | |
| Milestone C Decision | | | | | 1Q | | |
| FRP Award | | | | | | | 1Q |
| First Unit Equipped (FUE) | | | | | | | 4Q |

Spiral 1 - single-channel handheld and two-channel manpack systems.
Spiral 2 - all form factors including twelve versions of a small form fit form factor.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **629** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 12678 | 2713 | 0 | 0 | 0 | 0 | 0 | 0 | 37757 |

**A. Mission Description and Budget Item Justification:** The Army Transformation and the goals of the Future 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 Future 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 Current to Future transition path of the Transformation Campaign Plan.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| CIO/G6 reprogrammed all monies in MU17 including those in PE654805-D629. A formal decision was made by the MU17 GOSC not to fund the PING project effective FY03 and all funds slated for PING were reprogrammed to fund other priorities; but the funds remained in this line. | 1959 | 2388 | 0 |
| Applied Communications and Information Networking (ACIN) FY03:<br>- The objective of this one year Congressional add is to investigate specific emerging commercial communication technologies in the areas of Information Assurance, Subterranean Communications, Software Defined Radio and SATCOM On-The-Move. No additional funding is required to cmplete this project. | 11310 | 0 | 0 |
| Totals | 13269 | 2388 | 0 |

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

**C. Acquisition Strategy:** NA

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 5400 | 3269 | 1-4Q | 2388 | | 0 | | Continue | 11057 | 0 |
| b . 1) | | MITRE, Eatontown, NJ | 1226 | 0 | | 0 | | 0 | | 0 | 1226 | 0 |
| c . 2) | | SRI, Eatontown, NJ | 840 | 0 | | 0 | | 0 | | 0 | 840 | 0 |
| d . ACIN | OTA (Other Transactions) | Drexel Univ, Philadelphia, Pa | 17388 | 10000 | 2Q | 0 | | 0 | | 0 | 27388 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 24854 | 13269 | | 2388 | | 0 | | Continue | 40511 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**629**

| 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: | | | 24854 | 13269 | | 2388 | | 0 | | Continue | 40511 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **629** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Evaluate Architecture Issues | 1-4Q | 1-4Q | 1-4Q | | | | |
| Assessment and Analysis of Technology Impacts | 1-4Q | 1-4Q | 1-4Q | | | | |
| Policy and Implementation Plan Development | 1-4Q | 1-4Q | 1-4Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **F99** |

| COST (In Thousands) | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| F99 | NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT | 0 | 0 | 8253 | 7341 | 7331 | 5882 | 6289 | 0 | 35096 |

**A. Mission Description and Budget Item Justification:** This project provides Research, Development, Testing & Evaluation (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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct analyses as required to support the OSD manager | 0 | 0 | 326 |
| Development of prototype sensor | 0 | 0 | 1400 |
| Development of radionuclide particle and noble gas detectors | 0 | 0 | 750 |
| Information system enhancements | 0 | 0 | 750 |
| Continue the R&D support system | 0 | 0 | 500 |
| Research on location calibration for seismic events | 0 | 0 | 1627 |
| Development of techniques to identify signals from sensor systems | 0 | 0 | 1900 |
| Research of source phenomenology for events threshold | 0 | 0 | 1000 |
| Totals | 0 | 0 | 8253 |

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

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

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**F99**

| 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 | | | 0 | 0 | | 0 | | 2100 | 1-2Q | 0 | 2100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 2100 | | 0 | 2100 | 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 . Monitoring Sensor Systems, Program Data Analysis, Verification Systems Concept Demo | | SAIC, General Dynamics, VA | 0 | 0 | | 0 | | 3653 | 1-4Q | 0 | 3653 | 0 |
| b . Support Contracts & Government Support | Various | FL, NM, VA, AL | 0 | 0 | | 0 | | 1000 | 1-4Q | 0 | 1000 | 0 |
| c . SMDC | | Huntsville, AL | 0 | 0 | | 0 | | 500 | 1-4Q | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 5153 | | 0 | 5153 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**F99**

| 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 | | 0 | | 500 | 2-3Q | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 500 | | 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 . SMDC | | Huntsville, AL | 0 | 0 | | 0 | | 500 | 1-4Q | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 500 | | 0 | 500 | 0 |
| Project Total Cost: | | | 0 | 0 | | 0 | | 8253 | | 0 | 8253 | 0 |

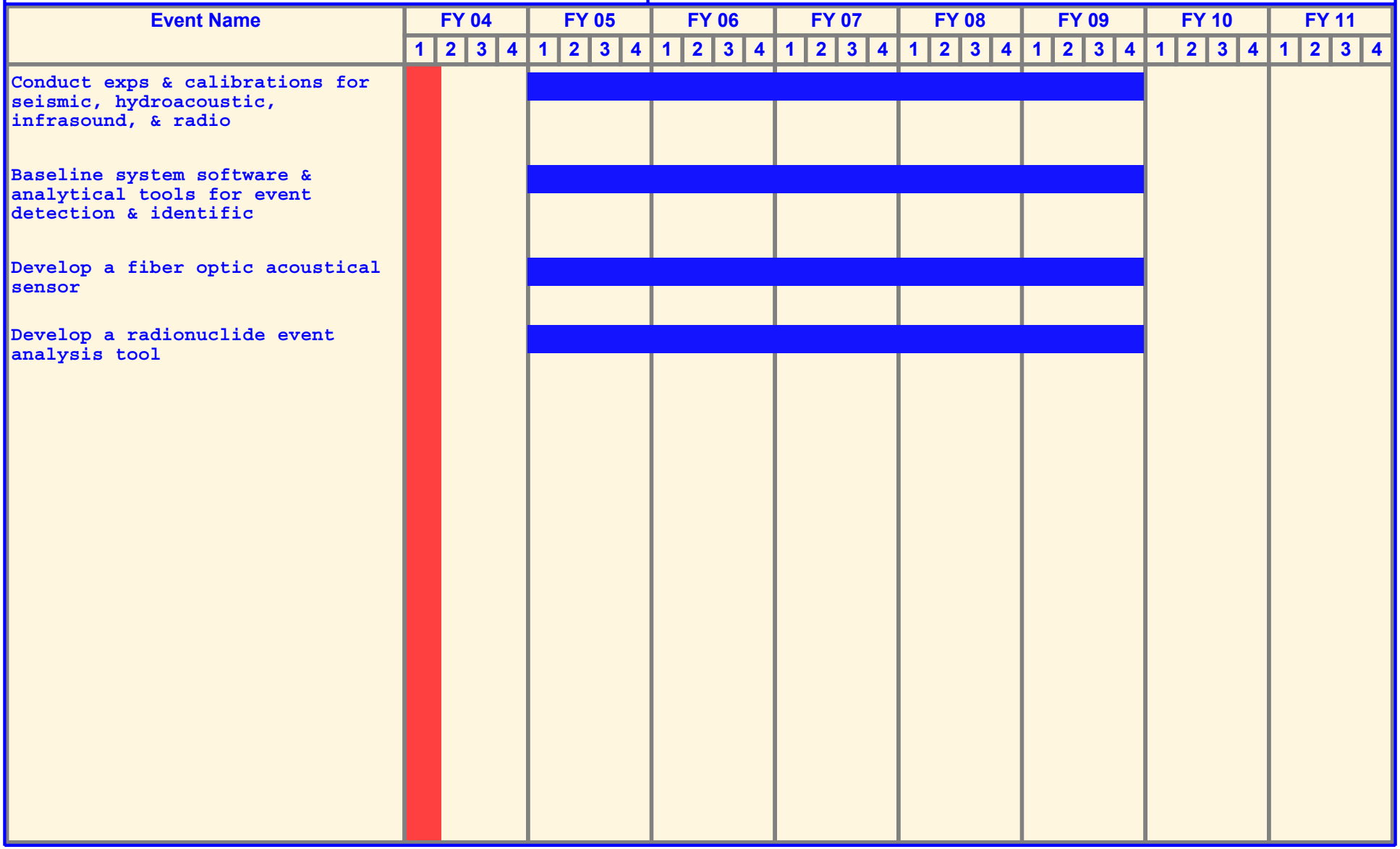
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604805A - Command, Control, Communications Systems - Eng Dev**

PROJECT
**F99**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604805A - Command, Control, Communications Systems - Eng Dev** | **F99** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Conduct experiments and calibrations for seismic, hydroacoustic, infrasound, and radionuclide sensor | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Baseline system software and analytical tools for event detection and identification | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Develop a fiber optic acoustical sensor | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Development a radionuclide event analysis tool | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

This program transferred from the Defense Threat Reduction Agency (DTRA) to SMDC in FY03 IAW PBD 289 (FY04). During the FY04 BES, the program was transferred to the Army and placed in PE 0603782A, Project #F98. During PB05, the program was transferred to PE 0604805A, Project #F99. In FY03, DTRA transferred funds to SMDC via a MIPR. This is an on-going program transfer and not a new program start

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 18769 | 22615 | 11727 | 12402 | 14322 | 15540 | 15567 | Continuing | Continuing |
| 812 | MIL HIV VAC&DRUG DEV | 0 | 3211 | 3723 | 4169 | 4463 | 4468 | 4464 | Continuing | Continuing |
| 832 | COMBAT MEDICAL MATL ED | 9381 | 5666 | 3443 | 3818 | 3732 | 5227 | 5251 | Continuing | Continuing |
| 834 | SOLDIER SYS PROT-ED | 768 | 5900 | 1055 | 874 | 2978 | 1801 | 1748 | Continuing | Continuing |
| 849 | INFEC DIS DRUG/VACC ED | 3269 | 3780 | 3506 | 3541 | 3149 | 4044 | 4104 | Continuing | Continuing |
| A10 | RAMAN CHEMICAL BIOTHREAT DETECTION PROGRAM | 5351 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5353 |
| A11 | LSTAT MEDICAL TECHNOLOGY (CA) | 0 | 2078 | 0 | 0 | 0 | 0 | 0 | 0 | 2078 |
| A12 | BIOMEDICAL ENGINEERING TECH & ADV MATERIALS (CA) | 0 | 990 | 0 | 0 | 0 | 0 | 0 | 0 | 990 |
| A13 | PRESSURE SWING ABSORPTION OXYGEN CONCENTRATOR (CA) | 0 | 990 | 0 | 0 | 0 | 0 | 0 | 0 | 990 |

**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 (OT&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 injuries are the largest contributor to medical footprint. Significant reductions in echelon 3 facilities can be achieved by reducing the number of ill soldiers. Equally important, the reduction of patient evacuation within Future Force (F2) 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 F2 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.

Project 812, Military HIV Vaccine and Development funds militarily relevant human immunodeficiency virus (HIV) research.

This program supports the Future Force transition path of the Army Transformation Campaign Plan (TCP).

Major contractors/intragovernmental agencies include Cambridge Consultants Corporation, IGR Enterprises, Army Medical Department Board Test Center, SeQual Technologies, Inc., and the American National Red Cross.

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 18790 | 12202 | 11715 |
| Current Budget (FY 2005 PB) | 18769 | 22615 | 11727 |
| Total Adjustments | -21 | 10413 | 12 |
| Congressional program reductions | | -214 | |
| Congressional rescissions | | | |
| Congressional increases | | 10650 | |
| Reprogrammings | -21 | -23 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 12 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **812** |

| COST (In Thousands) | FY 2003 Actual | 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 | 3211 | 3723 | 4169 | 4463 | 4468 | 4464 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds Congressionally mandated, militarily relevant human immunodeficiency virus (HIV) medical countermeasures. These funds provide 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 Future Force transition path of the Army Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| In FY03, program transferred to National Institutes of Health (NIH), and funding was provided to the U.S. Army Medical Research and Materiel Command (MRMC) to continue efforts on this vaccine; continued protocol development and approval for a Phase 3 field efficacy trial of a prime-boost vaccine strategy. In FY04, program returns to the Army. Begin multi-year Phase 3 clinical trial in Thailand to determine effectiveness of prime-boost HIV vaccine against the clade E virus strain. In FY05, continue multi-year Phase 3 clinical trial to determine effectiveness of prime boost HIV vaccine against the clade E virus strain. | 0 | 3118 | 3723 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 93 | 0 |
| Totals | 0 | 3211 | 3723 |

**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(R3)

**February 2004**

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 | | 2182 | | 2634 | | 0 | 7016 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2200 | 0 | | 2182 | | 2634 | | 0 | 7016 | 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 | | 32 | | 38 | | 0 | 271 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 201 | 0 | | 32 | | 38 | | 0 | 271 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 844 | | 976 | | 0 | 1820 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 844 | | 976 | | 0 | 1820 | 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 | | 153 | | 75 | | 0 | 333 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 105 | 0 | | 153 | | 75 | | 0 | 333 | 0 |
| Project Total Cost: | | | 2506 | 0 | | 3211 | | 3723 | | 0 | 9440 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**812**

| Event Name | FY 02 | | | | FY 03 | | | | FY 04 | | | | FY 05 | | | | FY 06 | | | | FY 07 | | | | FY 08 | | | | FY 09 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| (1) MS C | | | | | | | | | | | | | | | | | | | | | HIV Vaccine 1 | | | | | | | | | | | |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **812** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| HIV Vaccine (MS C) | | | | | 4Q | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **832** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 9381 | 5666 | 3443 | 3818 | 3732 | 5227 | 5251 | 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 U.S. 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 (Dental Field Treatment and Operating System (DEFTOS), Ventilated Assist Device, Non-Contact Respiration Monitor, One-Handed Tourniquet, Oxygen Generator, Cartilage Infuser, Hemostatic Dressing, and 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 support both the Army Transformation Campaign Plan (TCP) and Future Force doctrine/organizational structure.

Major contractors/intragovernmental agencies include: Cambridge Consultants Corporation, IGR Enterprises, Army Medical Department Board Test Center, Mission Medical Inc., Smission-Cartilage Biomedical, Nexus Medical LLC, Sequal Technologies, Inc, Naval Air Warfare Center Weapons Division, and the American National Red Cross.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Hemostatic Dressing (HD): FY03: Completed Battlefield Investigational New Drug Protocol, received FDA approval, and implemented protocol in Operation Iraqi Freedom. Delayed Phase 1/2 clinical trials due to American Red Cross financial problems (delay continues, expected resolution FY04). FY04: Directly compare HD to a competitor, the Chitosan Bandage, in a series of animal studies. FY05: Continuation of this program is dependent on the outcome of the comparative studies. | 6150 | 300 | 1790 |

| **Accomplishments/Planned Program (continued)** | 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): FY03: Completed technical, user, and environmental testing; designed new prototypes implementing recommended changes from user evaluation. Built, received, and re-evaluated the new prototypes. FY04: Attain Milestone C. (2) Thawed Blood Processing System (TBPS): FY03: Obtained clinical trials data from FDA. Prepared for technical and user evaluations of alternative system, FDA testing and regulatory submission. FY04: Submit for FDA clearance. Complete Milestone C. (3) Ceramic Oxygen Generator System (COGS): FY03: Completed fabrication of ceramic oxygen cell structures. Built and demonstrated a 3-liter per minute prototype generator. Began developing heat exchangers, enclosure, controls, and start up heater. FY04: Start development of full-scale engineering development model. FY05: Continue development of full-scale model, and refine manufacturing process to use existing device manufacturing techniques found in the electronics industry. (4) Ventilatory Assist Device (VAD). FY03: Completed user evaluation, prepared final test report. FY04:Develop an FDA approved anesthetic agent scrubber that will not require exterior venting, conduct clinical use and evaluation of the completed anesthesia system. (5) Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG): FY05: Conduct user evaluation and attain Milestone C. (6) Cartilage Infuser: FY03: Conducted human factors assessment; selected subcontractor for circuit board design. FY04: continue product development. (7) Hypertonic Saline Dextran (HSD): FY03: Reinitiated the development of HSD and developed a clinical trial plan. FY04: Receive FDA approval for the clinical development plan. Conduct scientific and human subject research reviews of the Phase 3 clinical trial protocol for prehospital treatment of trauma patients. | 3231 | 5204 | 1653 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 162 | 0 |
| Totals | 9381 | 5666 | 3443 |

**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(R3)

**February 2004**

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 | 6150 | | 300 | | 964 | | Continue | 19564 | 0 |
| b . Thawed Blood Processing System | | Mission Medical Inc. , Freemont, CA | 1625 | 1000 | | 1029 | | 0 | | Continue | 3654 | 0 |
| c . Rotary Valve Pressure Swing Adsorption oxygen Generator | | Sequal Technologies,Inc., San Diego, CA | 0 | 0 | | 1120 | | 1437 | | 0 | 2557 | 0 |
| d . Cartledge Infuser | | Smisson-Cartledge Biomedical L.L.C., Macon, GA | 0 | 1200 | | 1940 | | 0 | | 0 | 3140 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 13775 | 8350 | | 4389 | | 2401 | | Continue | 28915 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**832**

| 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 . Not Applicable | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**832**

| 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 | 1031 | | 1277 | | 1042 | | Continue | 10959 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7609 | 1031 | | 1277 | | 1042 | | Continue | 10959 | 0 |
| Project Total Cost: | | | 21384 | 9381 | | 5666 | | 3443 | | Continue | 39874 | 0 |

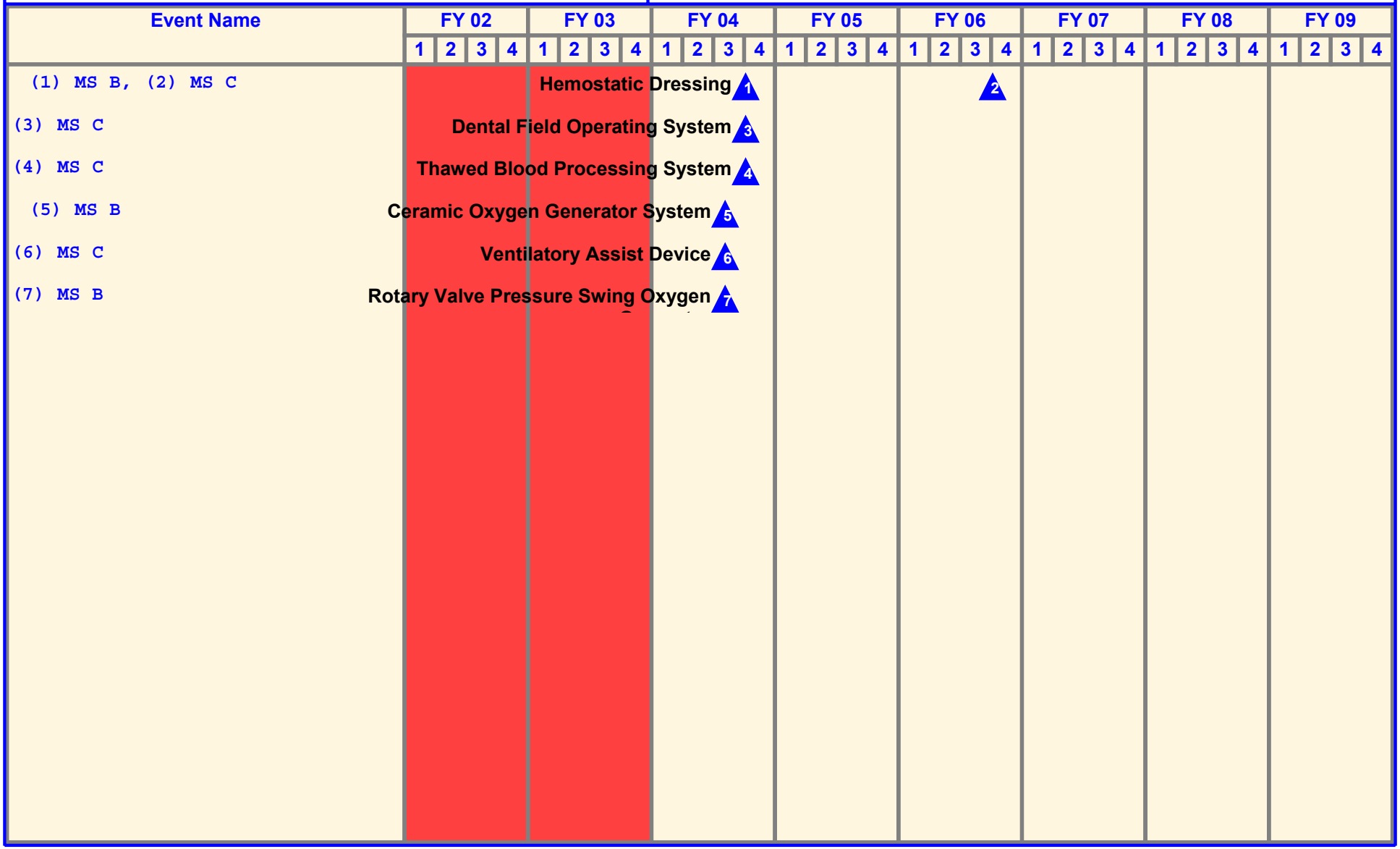
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**832**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **832** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Hemostatic Dressing (MS B); (MS C) | | 4Q | | 4Q | | | |
| Dental Field Treatment and Operating System (MS C) | | 4Q | | | | | |
| Thawed Blood Processing System (MS C) | | 4Q | | | | | |
| Ceramic Oxygen Generator Systems (MS B); (MS C) | | 3Q | | 4Q | | | |
| Rotary Valve Pressure Swing Oxygen | | 3Q | | | | | |
| Ventilatory Assist Device (MS C) | | 3Q | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **834** |

| COST (In Thousands) | FY 2003 Actual | 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 | 768 | 5900 | 1055 | 874 | 2978 | 1801 | 1748 | 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 non-battle 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 Future Force transition path of the Army Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| In FY03, produced the U.S. Food and Drug Administration (FDA)-required three-lot consistency lots of the Leishmania tropica skin test and initiated planning and contract modification to conduct a Phase 1 safety trial. In FY04, complete production and Phase I safety trial of Leishmania skin test. In FY05, fund the Air Worthiness Certification of the Special Medical Emergency Evacuation Device (SMEED), Life Support for Trauma and Transport (LSTAT) Next Generation, and the Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG). | 768 | 1179 | 1055 |
| Congressional Adds in support of Chem-Bio Protection | 0 | 4550 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 171 | 0 |
| Totals | 768 | 5900 | 1055 |

**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.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**834**

| 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 | | | 672 | 612 | | 737 | | 714 | | 0 | 2735 | 0 |
| b . Congressional Add in Support of Chem-Bio Protection | | | 0 | 0 | | 4550 | | 0 | | 0 | 4550 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 672 | 612 | | 5287 | | 714 | | 0 | 7285 | 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 | | | 0 | 0 | | 42 | | 32 | | 0 | 74 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 42 | | 32 | | 0 | 74 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**834**

| 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 | | | 0 | 0 | | 127 | | 96 | | 0 | 223 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 127 | | 96 | | 0 | 223 | 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 | | | 179 | 156 | | 444 | | 213 | | 0 | 992 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 179 | 156 | | 444 | | 213 | | 0 | 992 | 0 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 851 | 768 | | 5900 | | 1055 | | 0 | 8574 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **849** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3269 | 3780 | 3506 | 3541 | 3149 | 4044 | 4104 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project funds technical development of candidate medical countermeasures for 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 Future Force concept through reduction of evacuations of uniquely qualified soldiers and decrease in medical footprint to sustain the evacuees.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Clinical trials, developmental testing, and appropriate reviews of malarial/antimalarial vaccines, drugs, and diagnostics: In FY03, completed a contract modification to conduct true negative trials and initiated the fingerstick (OCONUS) trial with the Malaria Rapid Diagnostic Device (MRDD); initiated a Phase 1 safety study (mandated by the FDA) on the antimalarial drug tafenoquine; began site preparation for two, pivotal Phase 3 field efficacy trials of tafenoquine. In FY04, continue the Phase 1 study of tafenoquine with the addition of a second site; continue OCONUS site preparation for tafenoquine Phase 3 trials (2 sites); conduct true negative trial and complete the fingerstick (OCONUS) study of the MRDD. In FY05, initiate two Phase 3 studies (Kenya and Indonesia planned) to evaluate effectiveness of tafenoquine; conduct a MS C IPR to transition the MRDD to full-rate production and deployment; conduct a clinical design review for the RTS,S/improved adjuvant (P. falciparum) malaria vaccine. | 2512 | 1354 | 195 |
| Studies, trials, and reviews of diarrheal vaccines. In FY03, completed all data analyses for all efficacy trials of the Enterotoxigenic Escherichia coli (ETEC) vaccine for the prevention of traveler's diarrhea; initiated a Special IPR to terminate development of the current ETEC candidate vaccine; review indicated the current vaccine was not efficacious. | 647 | 989 | 1124 |
| Clinical studies and trials, and appropriate reviews of grouped vaccines, drugs, and diagnostics (Leishmaniasis, Paromomycin, Tick-borne Encephalitis Vaccine (TBEV), and Hepatitis E). In FY03, initiated a Phase 2 efficacy trial to determine the effectiveness of paromomycin/gentamicin topical antileishmanial; produced 3 FDA required consistency lots of the Leishmania tropica skin test and initiated planning and contract modification to conduct a Phase 1 clinical study. In FY04, initiate non-clinical testing of the new camouflage face paint formulation to meet Environmental Protection Agency requirements. In FY05, complete non-clinical testing of new camouflage face paint formulations and initiate planning for a Phase 1 safety study. | 110 | 1360 | 1699 |
| In FY05, initiate a Phase 3 efficacy trial of the dengue tetravalent vaccine in a dengue endemic area OCONUS. | 0 | 0 | 488 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 77 | 0 |
| Totals | 3269 | 3780 | 3506 |

**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.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**849**

| 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 | | | 3526 | 1112 | | 1220 | | 1168 | | Continue | 7026 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3526 | 1112 | | 1220 | | 1168 | | Continue | 7026 | 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 | | | 299 | 65 | | 76 | | 67 | | Continue | 507 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 299 | 65 | | 76 | | 67 | | Continue | 507 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**849**

| 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 | | | 5521 | 1537 | | 1835 | | 1695 | | Continue | 10588 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 5521 | 1537 | | 1835 | | 1695 | | Continue | 10588 | 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 | | | 1207 | 555 | | 649 | | 576 | | Continue | 2987 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 1207 | 555 | | 649 | | 576 | | Continue | 2987 | Continue |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 10553 | 3269 | | 3780 | | 3506 | | Continue | 21108 | Continue |

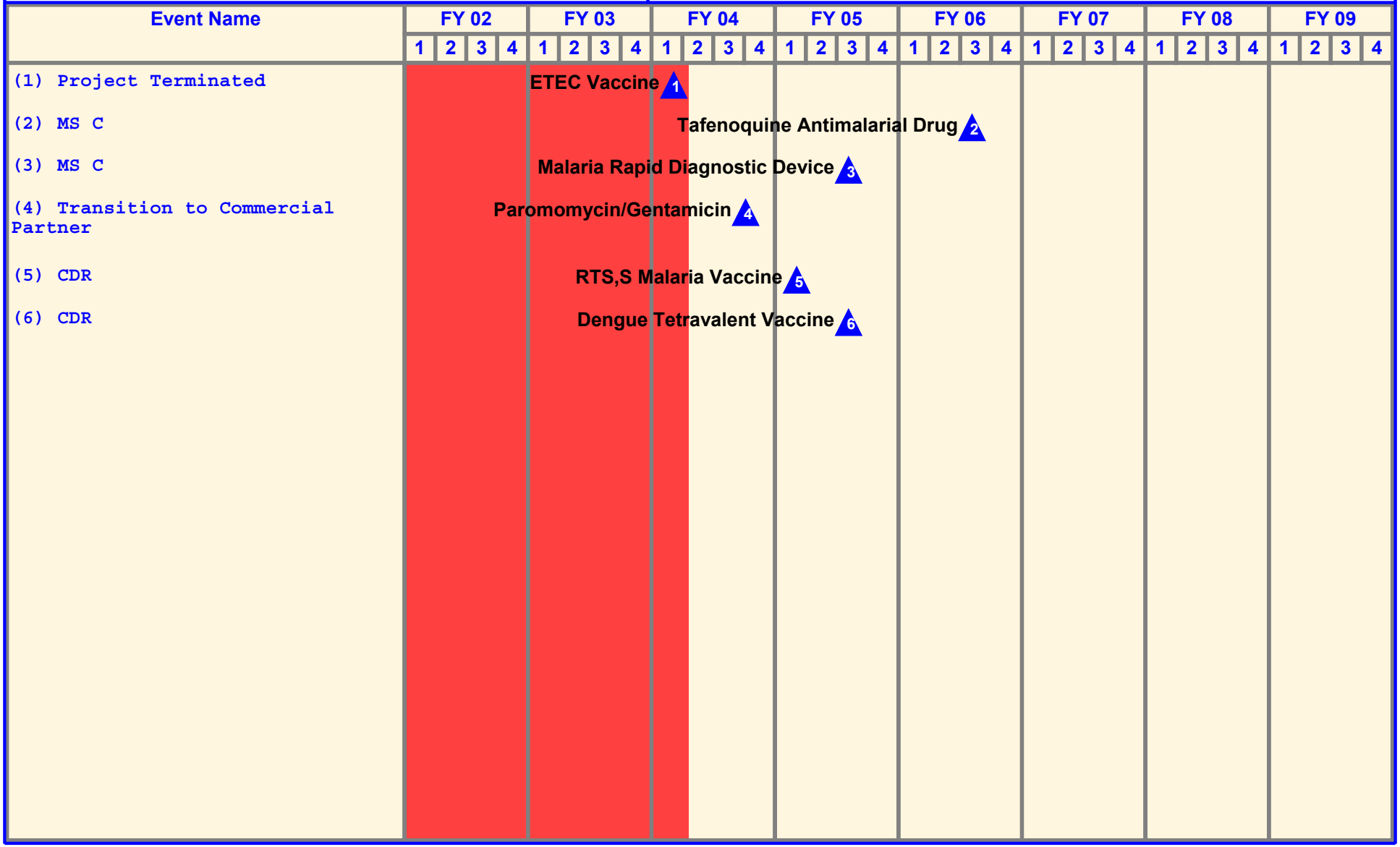
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604807A - Medical Materiel/Medical Biological Defense Equipm**

PROJECT
**849**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604807A - Medical Materiel/Medical Biological Defense Equipm** | **849** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| ETEC vaccine (Terminated) | | 1Q | | | | | |
| Tafenoquine antimalarial drug (MS C) | | | | 3Q | | | |
| Malaria Rapid Diagnostic Device (MS C) | | | 3Q | | | | |
| Paromomycin/Gentamicin (Transition to Commercial Developer) | | 3-4Q | | | | | |
| RTS,S/improved adjuvant (P. falciparum) malaria vaccine (Critical Design Review) | | | 1Q | | | | |
| Dengue tetravalent vaccine (Critical Design Review) | | | 3Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 125024 | 96187 | 51045 | 71230 | 82360 | 93513 | 102194 | Continuing | Continuing |
| 016 | CLOSE COMBAT CAPABILITIES ENG DEV | 36953 | 9398 | 29109 | 42430 | 53632 | 45887 | 35891 | Continuing | Continuing |
| 415 | MINE NEUTRAL/DETECTION | 52852 | 33356 | 14688 | 28800 | 28728 | 47626 | 66303 | Continuing | Continuing |
| 434 | ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD) | 27042 | 22289 | 7248 | 0 | 0 | 0 | 0 | 0 | 93781 |
| 443 | APL-A (MIXED SYSTEMS) | 8177 | 31144 | 0 | 0 | 0 | 0 | 0 | 0 | 75738 |

**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. This PE implements U.S. Landmine policy as outlined in Presidential Decision Directive 64 (June 1998) to develop alternatives to all landmine systems. The PE also provides for development of grenades, munition simulators, and pyrotechnic devices/systems. The Close Combat Capabilities Engineering Development, provides for increased tactical effectiveness and responsiveness of landmines, with development of upgrades for the Volcano Dispenser, as well as the development of the Intelligent Munition System (IMS), an FCS Core system. The 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. Project 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) Track I provides for development of the Spider alternative systems for Non Self-Destruct (NSD)Anti-Personnel Landmines (APLs).

These systems support the Stryker Brigade Combat Team (SBCT) and Future Force transition path of the Transformation Campaign Plan (TCP). IMS is an FCS Core Program; ASTAMIDS and GSTAMIDS are FCS Complementary Programs.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 123314 | 90396 | 90126 |
| Current Budget (FY 2005 PB) | 125024 | 96187 | 51045 |
| Total Adjustments | 1710 | 5791 | -39081 |
| Congressional program reductions | | -914 | |
| Congressional rescissions | | | |
| Congressional increases | | 6800 | |
| Reprogrammings | 1710 | -95 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -39081 |

FY03 Zero Sum Moves (Between Projects within this PE)
$22.4M from D443 to D016 to initiate development of the Intelligent Munitions System (IMS)
$ 6.1M from D016 to D415 for Mongoose development ($4.2M) and AROC II assessment ($1.8M)

FY04: + $6.8M increase for D016 for Magneto Inductance effort.

FY05 +$11.9M D016 Reprogrammed from 643619/D005 to allign IMS in acquisition phase (SDD) with the overall FCS program.
+$ 1.5M D606 Reprogrammed from E81400 - production to RDTE on Mongoose program
-$67.1M D443; +$17.7M D016 - Allows for the consolidation of TRACK III development with the Intelligent Munitions System (IMS) to achieve future force requirements. The Army shall ensure that the budget complies with Administration policy and shall budget appropriate resources for landmine alterantives in the future. Remaining funds ($35.9M) realigned to support higher priority requirements

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **016** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 36953 | 9398 | 29109 | 42430 | 53632 | 45887 | 35891 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Intelligent Munitions System is one of the 18 core programs that make up the Future Combat Systems(FCS) Family of Systems. IMS is an integrated system of effects (lethal, non-lethal, anti-vehicle, anti-personnel, demolitions), software, sensors/seekers, and communications that may be emplaced by multiple means and is capable of 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 networked munitions and real time targeting data capabilities while eliminating the need for overwatch forces. The Intelligent Munitions System is an FCS unit of action spiral forward funded program.
The APLA TRACK III Mixed System provided alternatives to anti-personnel submunitions used in mixed anti-tank landmine systems and possibly the entire mixed landmine system. IMS forms the backbone of future controllable and integrated mine systems that will shape development of our landmine alternatives. The requirement for TRACK III will be fulfilled as part of the sprial development of the IMS.
These Systems support the Stryker Brigade Combat Team (SBCT) and Future Forces of the Transformation Campaign Plan (TCP).

In prior years, this project provided 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 Remote Activation Munition System (MI-RAMS), Special Forces Demolition Kit for Urban OPS, Structure Remote Initiator, Insensitive Initiator, and Advanced Cratering.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Initiate IMS Development. | 20000 | 0 | 0 |
| Continue IMS concept development - component and system level. | 0 | 0 | 13394 |
| Conduct IMS Modeling, Simulation and Analysis. | 2400 | 0 | 2715 |
| Conduct IMS FCS integration testing. | 320 | 0 | 2000 |
| Conduct contractor demonstration testing. | 0 | 0 | 11000 |
| Complete and document design/development of Volcano DCU upgrades. | 4148 | 900 | 0 |
| Continue test planning and management for Volcano DCU. | 1759 | 0 | 0 |
| Management of orderly termination plan for Voclano light annd DCU Upgrades. | 0 | 1425 | 0 |
| Volcano DCU Engineering testing. | 644 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Design/Develop Volcano Light. | 900 | 0 | 0 |
| Volcano Light Test planning and management. | 368 | 0 | 0 |
| Develop Magnedo Inductive Remote Activation Munition System (MI-RAMS) Shock Tube Initiator. | 5000 | 6800 | 0 |
| Develop Rapid Wall Breacher Kit. | 400 | 0 | 0 |
| Develop SDK Urban OPS Suppliment. | 1014 | 0 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 273 | 0 |
| Totals | 36953 | 9398 | 29109 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 643619 / D005 Close Combat Capabilities - Advanced Development (IMS) | 0 | 27026 | 0 | 0 | 0 | 0 | 0 | 0 | 27026 |
| G39100, Dispenser, Mine M139 | 0 | 5231 | 0 | 0 | 0 | 0 | 0 | 0 | 5231 |

**C. Acquisition Strategy:** IMS - Competitively awarded two cost plus incentive fee, incrementally funded Technology Development (TD) phase contracts. Will downselect to one of the TD phase contractors for System Development and Demonstration (SDD) phase and award a cost plus incentive fee, incrementally funded contract for SDD and low rate initial production. The IMS is being developed as an evolutionary acquiusition program that will field a capability that meets national landmine policy and will sprial into meeting the FCS Full Operational Capability.
MI-RAMS - Award a sole source contract to Magneto Inductive Systems LTD for SDD
MI - Shock Tube Initiator - Award a Sole Source contract to Ratheon Technical Systems of Indianapolis IN

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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-CFF | Alliant Tech Systems, Plymouth MN | 1230 | 4118 | 1-2Q | 900 | | 0 | | 0 | 6248 | 6278 |
| b . Volcanol Light-SDD Contract | C-CFF | Alliant Tech Systems, Plymouth MN | 0 | 900 | 4Q | 0 | | 0 | | 0 | 900 | 900 |
| c . Magneto Inductive Shock Tube Initiator | SS - CPIF | Ratheon Technical Services, Indianapolis IN | 0 | 0 | | 800 | 2Q | 0 | | 0 | 800 | 0 |
| d . Magneto Inductive - RAMS | C-CPIF | Coastal System Station, Panama City FL | 0 | 3710 | 4Q | 4073 | 2Q | 0 | | 0 | 7783 | 3710 |
| e . Wall Breacher | C-CPIF | Ens Bickford, Simsbury CN | 0 | 400 | 4Q | 0 | | 0 | | 0 | 400 | 0 |
| f . Urban OPS | FP | Amenn and Whitney (GSA) | 0 | 404 | 4Q | 0 | | 0 | | 0 | 404 | 0 |
| g . IMS Technology development | C-CPIF | GDAIS, Bloomington, MN | 0 | 9000 | 3Q | 0 | | 11000 | 1Q | 0 | 20000 | 0 |
| h . IMS Technology development | C-CPIF | Textron System Corp., Wilmington, MA | 0 | 9000 | 3Q | 0 | | 11394 | | 0 | 20394 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1230 | 27532 | | 5773 | | 22394 | | 0 | 56929 | 10888 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**016**

| 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 | 267 | 3Q | 394 | 1Q | 0 | | 0 | 661 | 534 |
| b . Engineering Support Volcano DCU | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 100 | 974 | 1Q | 351 | 2Q | 0 | | 0 | 1425 | 1574 |
| c . Volcano DCU Task Order | MIPR | Various | 0 | 277 | 2-4Q | 200 | 2Q | 0 | | 0 | 477 | 477 |
| d . Magneto Induction - RAMS | MIPR | Various | 0 | 1715 | 2-4Q | 1900 | 2Q | 0 | | 0 | 3615 | 0 |
| e . Urban OPS | MIPR | TACOM/ARDEC, Picatinny Arsenal, NJ | 0 | 530 | 2-4Q | 0 | | 0 | | 0 | 530 | 0 |
| f . IMS Engineering Support | MIPR | TACOM/ARDEC Picatinny Arsenal, NJ | 0 | 2000 | 3-4Q | 0 | | 3000 | 1Q | 0 | 5000 | 0 |
| g . IMS | MIPR | CECOM, Fort Monmouth, NJ | 0 | 600 | 3-4Q | 0 | | 900 | 1Q | 0 | 1500 | 0 |
| h . IMS Engineering Support | MIPR | Various | 0 | 300 | 3-4Q | 0 | | 1000 | 1Q | 0 | 1300 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 100 | 6663 | | 2845 | | 4900 | | 0 | 14508 | 2585 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**016**

| 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 | MIPR | ATEC, MD | 0 | 0 | | 0 | 2Q | 0 | | 0 | 0 | 330 |
| b . Volcano- DCU | MIPR | ATEC, APG, MD | 0 | 674 | 2Q | 0 | 2Q | 0 | | 0 | 674 | 794 |
| c . Magneto Induction - RAMS | MIPR | DTC, Aberdeen, MD | 0 | 30 | 3Q | 30 | 2Q | 0 | | 0 | 60 | 0 |
| d . Urban OPS | MIPR | ATEC, APG, MD | 0 | 130 | 3Q | 0 | | 0 | | 0 | 130 | 0 |
| e . IMS | MIPR | AMSAA, APG, MD | 0 | 320 | 3Q | 0 | | 215 | 1Q | 0 | 535 | 0 |
| f . IMS | MIPR | ATEC, APG, MD | 0 | 0 | | 0 | | 1000 | 1Q | 0 | 1000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1154 | | 30 | | 1215 | | 0 | 2399 | 1124 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 101 | 4Q | 230 | 1Q | 0 | | 0 | 331 | 331 |
| b . Volcano DCU | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 412 | 1Q | 250 | | 0 | | 0 | 662 | 562 |
| c . Magneto Induction - RAMS | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 165 | 2-4Q | 270 | 2Q | 0 | | 0 | 435 | 165 |
| d . Wall Breacher | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 30 | 3-4Q | 0 | | 0 | | 0 | 30 | 30 |
| e . IMS | In-House | PM CCS, Picatinny Arsenal, NJ | 0 | 896 | 3-4Q | 0 | | 600 | 1Q | 0 | 1496 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1604 | | 750 | | 600 | | 0 | 2954 | 1088 |
| Project Total Cost: | | | 1330 | 36953 | | 9398 | | 29109 | | 0 | 76790 | 15685 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **016** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Volcano Modular Upgrade - ECP contract awarded | 2Q | | | | | | |
| Volcano Modular Upgrade - Contract Award | 2Q | | | | | | |
| Magneto Inductive Remote Activation Munition System (MI-RAMS) development | | 1-4Q | | | | | |
| MI-RAMS Milestone B | 4Q | | | | | | |
| MI-RAMS Preliminary Design Review | | 4Q | | | | | |
| Rapid Wall Breaching Kit - MS B | 4Q | | | | | | |
| SDK Urban OPS Suppliment - MS B | | 2Q | | | | | |
| IMS Effects and Trade Study | 2Q | | | | | | |
| IMS ContractyorTesting | | | 4Q | | | | |
| IMS Prototype Assessment Test | | | 4Q | 1Q | | | |
| IMS Milestone B | | | | 2Q | | | |
| IMS SDD Contract Review | | | | 3Q | | | |
| IMS SDD System Requirements Review | | | | | 1Q | | |
| IMS Critical Design Review | | | | | | | 2Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **415** |

| COST (In Thousands) | FY 2003 Actual | 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 | 52852 | 33356 | 14688 | 28800 | 28728 | 47626 | 66303 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project provides System Development and Demonstration (SDD) for the Airborne Standoff Minefield Detection System (ASTAMIDS). The 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. ASTAMIDS can be used in tactical operations in real time, day and night, to detect surface emplaced and recently buried minefields and obstacles. This System is a Future Combat System Increment I Complementary system

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 Future Combat Systems (GSTAMIDS FCS) With the advent of the Army's Future Force Transformation, the GSTAMIDS Program has been restructured to meet the countermine requirements for the FCS. The April 2003 Joint Requirements Oversight Council (JROC) approved the FCS Operational Requirements Document (ORD) which includes countermine requirements. The GSTAMIDS FCS will provide the Unit of Action (UA) a capability that can be used for mine detection, mine and lane marking, mine neutralization and interfaces with FCS host platform(s) and Command, Control, Communications, and Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) reporting during on-route countermine operations. This System is a Future Combat System Increment I Complementary system

Explosive Standoff Minefield Clearer (Mongoose) is a rocket deployed array of shaped charge munitions, launched across minefields and command detonated, to provide a high confidence cleared lane for the passage of mounted troops. Mongoose will defeat all defined threat mines from a stand-off position including mines with countermeasures to current countermine systems. Mongoose is a Stryker Brigade System & a potential FCS system.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Conduct GSTAMIDS Block 0 Government Testing. | 3709 | 0 | 0 |
| Complete GSTAMIDS Block 0 Contractor Testing. | 4407 | 0 | 0 |
| Complete GSTAMIDS Block 0 System Integration. | 700 | 0 | 0 |
| Conduct Source Selection and award GSTAMIDS FCS System Development and Demonstration Contract. | 0 | 1120 | 0 |
| Initiate GSTAMIDS FCS SDD contract. | 0 | 16886 | 13075 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| ESMC BCT design and validate insensitive munition and rocket. | 16138 | 4000 | 0 |
| Completed ESMC (Mongoose) BCT preliminary design. | 4200 | 1000 | 0 |
| Fabricate ESMC prototypes (14 reloads, 5 trailers) for productions qualification testing. | 8548 | 6000 | 1613 |
| Contractor/Government testing of ESMC. | 2525 | 2000 | 0 |
| Develop ESMC Manufacturing Processes. | 700 | 1434 | 0 |
| Fabrication of 22 HSTAMIDS Prototypes and conduct DT/OT testing. | 6300 | 0 | 0 |
| Prepare documentation, conduct MS C, and prepare procurement package for HSTAMIDS. | 927 | 0 | 0 |
| Support to PEO Solider for Rapid Equipping Force. | 2848 | 0 | 0 |
| Support to AROC II. | 1850 | 0 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 916 | 0 |
| Totals | 52852 | 33356 | 14688 |

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

**February 2004**

| 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 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 | 9719 | 9764 | 11299 | 0 | 8254 | 39015 | 43453 | Continuing | Continuing |
| R68200, HSTAMIDS | 0 | 1766 | 6836 | 7093 | 7084 | 8156 | 7422 | Continuing | Continuing |
| OPA 3, R68101, GSTAMIDS Block 0 | 9334 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17514 |
| OPA 3, R68102, GSTAMIDS FCS | 0 | 0 | 0 | 0 | 7375 | 21483 | 20779 | Continuing | Continuing |
| OPA 3, R68105 ESMC | 0 | 0 | 1981 | 2966 | 592 | 0 | 0 | 0 | 5539 |
| Ammo, E81400 ESMC | 0 | 0 | 0 | 3000 | 5000 | 19500 | 28700 | 0 | 56200 |
| OPA 3, S11500 ASTAMIDS | 0 | 0 | 0 | 0 | 0 | 11486 | 12290 | 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 was awarded Cost Plus Incentive Fee (CPIF) System Development and Demonstration (SDD) contract upon completion of System Component Development phase and MDA approval. Sole source production contract with multiple options is anticipated for the successful SDD contractor.
With the advent of the Army's Future Force Transformation, the GSTAMIDS Program has been restructured to meet the countermine requirements for the Future Combat Systems (FCS). The FCS Operational Requirements Document (ORD), dated April 2003 identifies countermine requirements. The GSTAMIDS FCS will provide the Unit of Action (UA) a capability that can be used for mine detection, mine and lane marking, mine neutralization and interfaces with FCS host platform(s) and Command, Control, Communications, and Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) reporting during in-route countermine operations. GSTAMIDS FCS enters the SDD Phase in 1Q FY04 with MDA approval and competitively selected SDD contract. HSTAMIDS had two competing contractors at start of CTD phase. In FY99 one contractor was selected to continue extended CTD phase through SDD. The SDD contractor will be awarded a production contract with multiple options.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1725 | 1-2Q | 0 | | 0 | | 0 | 1725 | 1725 |
| b . GSTAMIDS FCS | C-CPFF | BAE Systems, Austin, TX | 0 | 75 | 1Q | 0 | | 0 | | 0 | 75 | 95 |
| c . GSTAMIDS FCS | TBD | TBD | 0 | 0 | | 13243 | 2Q | 10078 | 2Q | Continue | 23321 | Continue |
| d . GSTAMIDS Block 0 | C-CPFF | EG&G Systems Inc., Albuquerque, NM | 15015 | 1391 | 1-2Q | 0 | | 0 | | 0 | 16406 | 16161 |
| e . HSTAMIDS | C-CPIF | CY Terra Corporation, Orlando, FL | 12401 | 3375 | 2Q | 0 | | 0 | | 0 | 15776 | 17566 |
| f . ESMC | SS-CPIF | BAE Systems, Austin,TX | 19933 | 27294 | 1-2Q | 10451 | | 1613 | | 0 | 59291 | 54197 |
| g . AROC II | | | 0 | 1850 | | 0 | | 0 | | 0 | 1850 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 47349 | 35710 | | 23694 | | 11691 | | Continue | 118444 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 88 | 1Q | 0 | | 0 | | 0 | 6247 | 5250 |
| c . Eng Support GSTAMIDS Block 0 | Various | Various Contractors | 7722 | 131 | 1Q | 0 | | 0 | | 0 | 7853 | 7871 |
| d . GSTAMIDS Blk I/FCS | MIPR | Various OGAs | 0 | 812 | 1Q | 967 | 1Q | 700 | 1Q | Continue | 2479 | Continue |
| e . GSTAMIDS Support Blk I/FCS | MIPR | NVESD/CECOM, Ft Belvoir, VA | 0 | 1228 | 1Q | 1806 | 1Q | 800 | 1Q | Continue | 3834 | Continue |
| f . Support GSTAMIDS Blk 1/FCS | Various | Various Contractors | 0 | 591 | 1Q | 276 | 1Q | 400 | 1Q | Continue | 1267 | Continue |
| g . Eng Support HSTAMIDS | MIPR | NVESD/CECOM, Ft Belvoir, VA | 3162 | 1371 | 1Q | 0 | | 0 | | 0 | 4533 | 4533 |
| h . Support HSTAMIDS | Various | Various | 3519 | 848 | 1Q | 0 | | 0 | | 0 | 4367 | 4367 |
| i . ESMC (Mongoose) | MIPR | NVESD/CECOM, Ft Belvoir, VA | 1497 | 367 | 1Q | 390 | 1Q | 0 | | 0 | 2254 | 2189 |
| j . ESMC (Mongoose) | Various | Various | 3905 | 1825 | 1Q | 1069 | 1Q | 0 | | 0 | 6799 | 6492 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . HSTAMIDS | | PEO Soldier Spt | 0 | 2849 | | 0 | | 0 | | 0 | 2849 | 0 |
| l . Tiger team for robotics | MIPR | PM- Soldier, Ft. Belvoir | 1000 | 0 | | 0 | | 0 | | 0 | 1000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 33707 | 10195 | | 4508 | | 1900 | | Continue | 50310 | 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 | 1287 | 2Q | 0 | | 0 | | 0 | 4369 | 4369 |
| b . Test support HSTAMIDS | MIPR | ATEC, Alexandria, VA | 1793 | 1066 | 1Q | 0 | | 0 | | 0 | 2859 | 2859 |
| c . Test Support ESMC | MIPR | ATEC, Alexandria, VA | 597 | 1201 | 1Q | 1075 | 1Q | 0 | | Continue | 2873 | 3763 |
| d . Test support GSTAMIDS Blk 1/FCS | MIPR | ATEC, Alexandria, VA | 0 | 40 | 2Q | 40 | 2Q | 200 | 2Q | 0 | 280 | 394 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5472 | 3594 | | 1115 | | 200 | | Continue | 10381 | 11385 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1495 | 1-4Q | 1466 | 1-4Q | 449 | 1-4Q | Continue | 6209 | Continue |
| b . Program management Contractor support | Various | Various | 2737 | 1858 | 1-4Q | 2573 | 1-4Q | 448 | 1-4Q | Continue | 7616 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 5536 | 3353 | | 4039 | | 897 | | Continue | 13825 | Continue |
| Project Total Cost: | | | 92064 | 52852 | | 33356 | | 14688 | | Continue | 192960 | Continue |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **415** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| GSTAMIDS Block 0 MS C | | 2Q | | | | | |
| GSTAMIDS FCS MS B | 4Q | | | | | | |
| GSTAMIDS FCS MS C | | | | | | | 2Q |
| HSTAMIDS MS C | | 1Q | | | | | |
| ESMC MS B | | | | | | | |
| ESMC (BCT) MS C | | | 2Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **434** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 27042 | 22289 | 7248 | 0 | 0 | 0 | 0 | 0 | 93781 |

**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. The Non Self-Destruct Anti-Personnel Landmine program, also known as the Spider program, provides for force protection, assured mobility and battle space shaping without leaving a residual battlefield hazard after cessation of hostilities. This System supports the Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Contractor team design/development for SD&D Phase. | 22387 | 11120 | 3000 |
| Provide general engineering support, program management and risk reduction efforts for SD&D. | 3910 | 6378 | 3000 |
| Perform modeling and simulation. | 240 | 240 | 150 |
| Government test and evaluation facility and facility support activities. | 505 | 3904 | 1098 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 647 | 0 |
| Totals | 27042 | 22289 | 7248 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| PAA E91700 - Anti-Personnel Landmine Alternatives | 0 | 0 | 15222 | 33710 | 111666 | 112492 | 116886 | 0 | 389976 |

**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. SDD contract was awarded September 2002. The SDD phase is a 33-month development effort culminating with Milestone C scheduled for June 2005. The first production unit is scheduled for March 2007 with IOC in 2008. The Spider program is now in the 17th month of its SDD phase.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 15870 | 22387 | 2-3Q | 11767 | 2Q | 2561 | 1Q | 0 | 52585 | 54662 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15870 | 22387 | | 11767 | | 2561 | | 0 | 52585 | 54662 |

| 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 | 2024 | 2Q | 3220 | 2Q | 1202 | 2Q | 0 | 9706 | 7615 |
| b . Eng support NSD-A | MIPR | Various | 1908 | 711 | 2Q | 1482 | 2Q | 996 | 2Q | 0 | 5097 | 5114 |
| c . Engr Support | Various | BRTRC, CORBETT, MITRE, Various | 0 | 645 | 2-4Q | 1000 | 2Q | 856 | 2Q | 0 | 2501 | 2761 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5168 | 3380 | | 5702 | | 3054 | | 0 | 17304 | 15490 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 505 | 2Q | 3904 | 2Q | 1183 | 2Q | 0 | 7592 | 8892 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2000 | 505 | | 3904 | | 1183 | | 0 | 7592 | 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 | 770 | 1-4Q | 916 | 1-4Q | 450 | 2Q | 0 | 2592 | 4155 |
| | | | | | | | | | | | | |
| Subtotal: | | | 456 | 770 | | 916 | | 450 | | 0 | 2592 | 4155 |
| Project Total Cost: | | | 23494 | 27042 | | 22289 | | 7248 | | 0 | 80073 | 83199 |

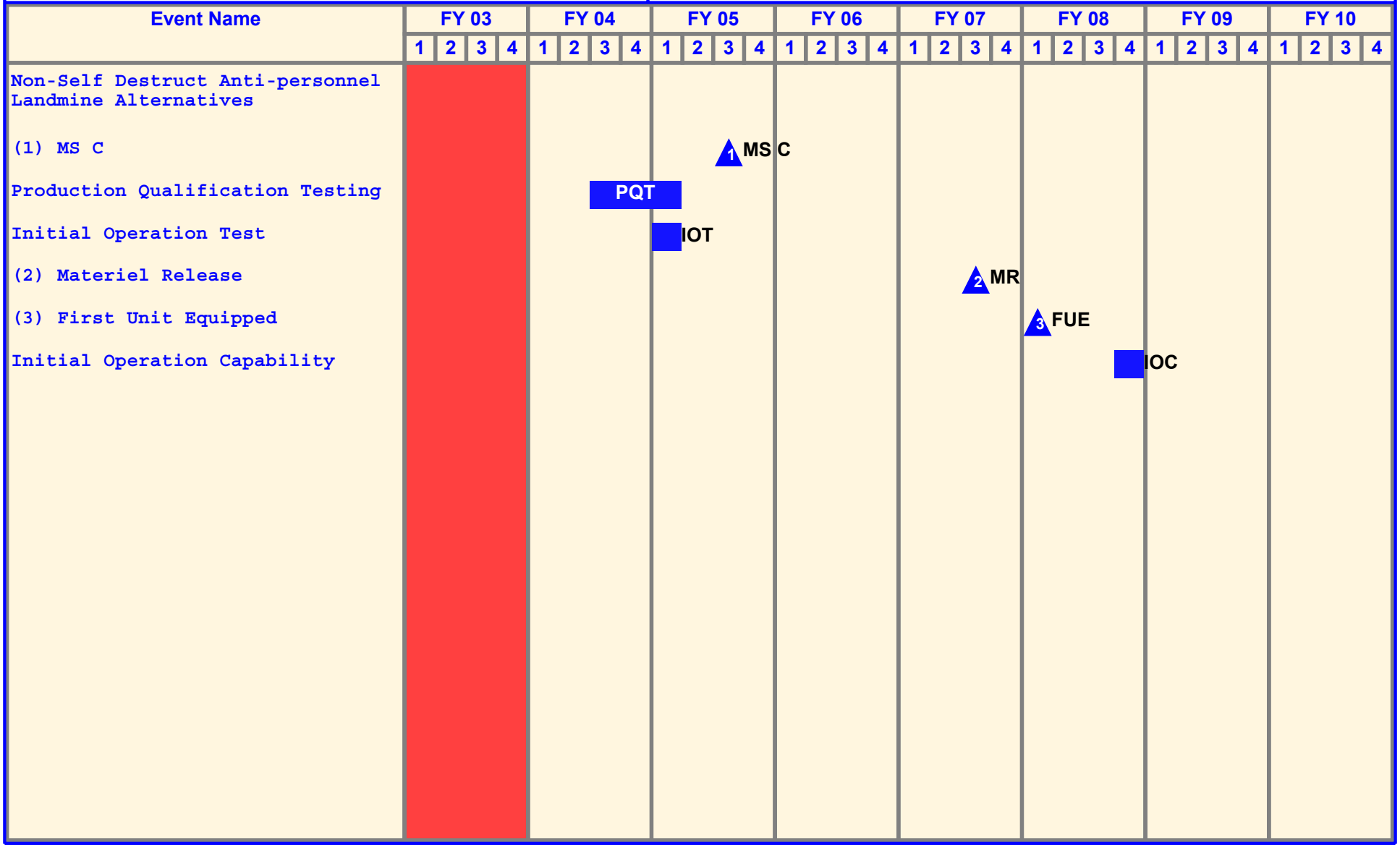
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**434**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **434** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| NSD-A MS-C | | | 3Q | | | | |
| Production Qualification Test | | 3-4Q | 1Q | | | | |
| Initial Operational Test | | | 1Q | | | | |
| Material Release | | | | | 3Q | | |
| First Production Delivery | | | | | 2Q | | |
| Initial Operational Capability | | | | | | 4Q | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **443** |

| COST (In Thousands) | FY 2003 Actual | 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) | 8177 | 31144 | 0 | 0 | 0 | 0 | 0 | 0 | 75738 |

**A. Mission Description and Budget Item Justification:** This project was to provide 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 were to include but were not limited to surveilance, command and control, 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. The Intelligent Munition System program forms the backbone of future controllable and integrated mine systems that will shape the development of landmine alternatives, will address mixed system requirements as part of its spiral development. Beginning in FY 05, funding for this effort has transitioned to Project 016 within this Program Element.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| To support Presidential Decision Directive on landmine policy which is expected in future. Funds are predominantly for Component Advanced Development / risk studies. | 7694 | 29539 | 0 |
| Provide general engineering support and program management. | 483 | 200 | 0 |
| APLA risk reduction efforts. | 0 | 500 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 905 | 0 |
| Totals | 8177 | 31144 | 0 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 64802/D016 Close Combat Capabilities Engineering Development | 36953 | 9398 | 29109 | 42430 | 53632 | 45887 | 35891 | 0 | 253300 |

**C. Acquisition Strategy:** The Department of Defense is consolidating the Anti-Personnel Landmine Alternative (Mixed System) program (Track III) with development of the Intelligent Munition System to achieve future force requirements. The Intelligent Munition System program forms the backbone of future controllable and integrated mine systems that will shape the development of landmine alternatives, will address mixed system requirement as part of its spiral development.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 BAE Sys., Austin , TX | 6223 | 0 | | 0 | | 0 | | 0 | 6223 | 70528 |
| b . APL-A Component Technology Development | C-CPIF | Various contractors | 1487 | 0 | | 0 | | 0 | | 0 | 1487 | 4987 |
| c . APL-A Support | | Various contractors | 4830 | 0 | | 0 | | 0 | | 0 | 4830 | 11030 |
| d . APL-A UMCS | MIPR | CECOM, Ft. Monmouth | 700 | 0 | | 0 | | 0 | | 0 | 700 | 3325 |
| e . APL-A System Concept Exploriation | C-CPIF | Various contractors | 9311 | 0 | | 0 | | 0 | | 0 | 9311 | 6223 |
| f . Landmine Alternative Development | TBD | TBD | 0 | 7694 | | 30444 | | 0 | | 0 | 38138 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 22551 | 7694 | | 30444 | | 0 | | 0 | 60689 | 96093 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 283 | 2-4Q | 700 | 1Q | 0 | | 0 | 4439 | 8172 |
| b . Engineering Support | MIPR | Various | 1237 | 0 | 2-4Q | 0 | | 0 | | 0 | 1237 | 2687 |
| c . Concepts & Component Analysis & Evaluation | MIPR | Various | 8251 | 0 | 2-4Q | 0 | | 0 | | 0 | 8251 | 13051 |
| | | | | | | | | | | | | |
| Subtotal: | | | 12944 | 283 | | 700 | | 0 | | 0 | 13927 | 23910 |

| 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 | 0 | 2-4Q | 0 | | 0 | | 0 | 1210 | 1885 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1210 | 0 | | 0 | | 0 | | 0 | 1210 | 1885 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**443**

| 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 | 200 | 2-4Q | 0 | | 0 | | 0 | 1410 | 2760 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1210 | 200 | | 0 | | 0 | | 0 | 1410 | 2760 |
| Project Total Cost: | | | 37915 | 8177 | | 31144 | | 0 | | 0 | 77236 | 124648 |

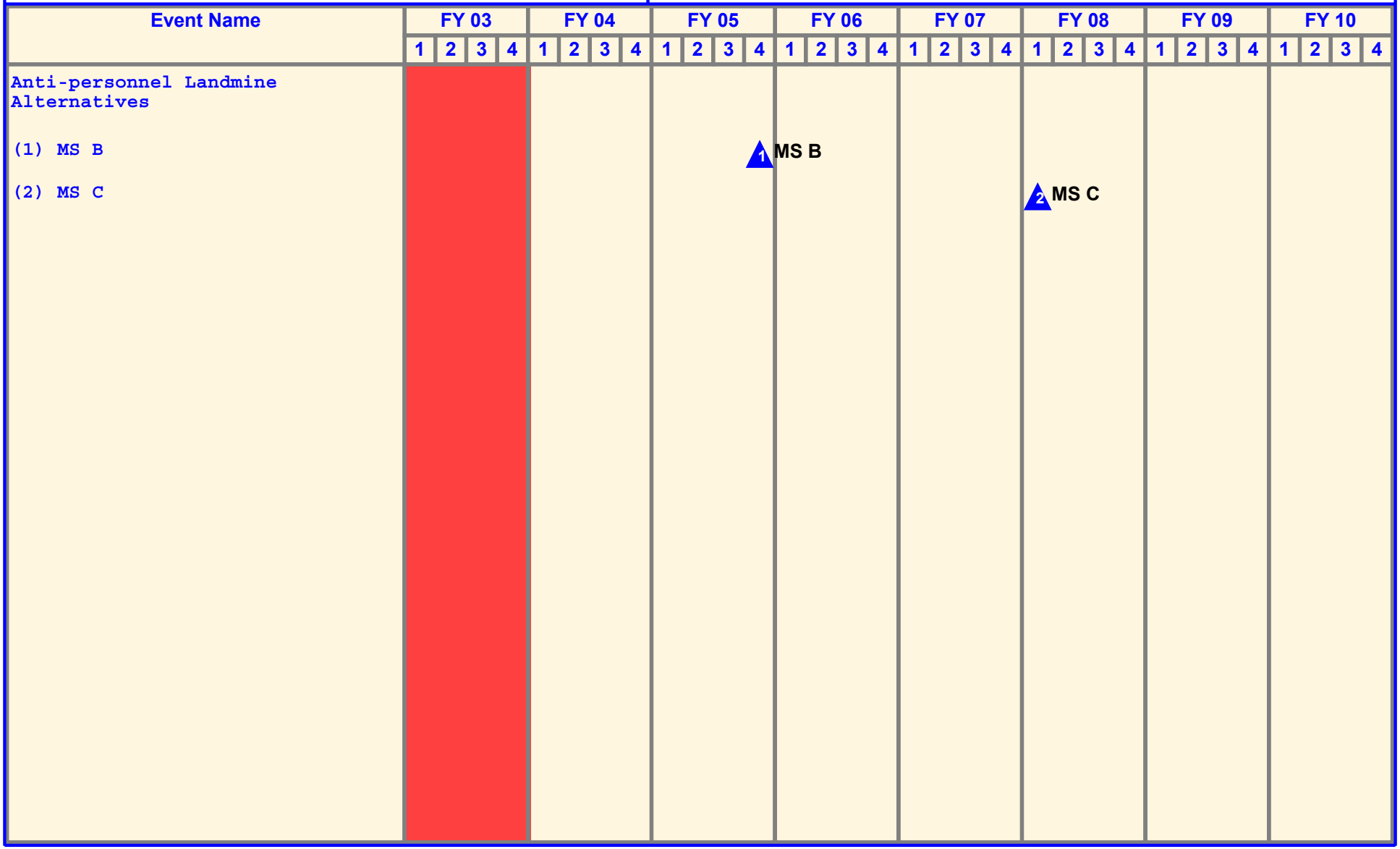
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT
**443**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604808A - Landmine Warfare/Barrier - Eng Dev** | **443** |

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

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604814A - Artillery Munitions - EMD** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 102141 | 122631 | 133297 | 114444 | 115242 | 100997 | 113519 | Continuing | Continuing |
| 708 | XM982 PROJECTILE | 102141 | 122631 | 133297 | 114444 | 100378 | 81188 | 92630 | Continuing | Continuing |
| 709 | ADVANCED FIELD ARTILLERY MUNITION | 0 | 0 | 0 | 0 | 14864 | 19809 | 20889 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This program funds multiple efforts; the Excalibur XM982 Projectile Blocks I and III, the Spin Stabilized-Sensor Fuzed Munition (SS-SFM) and the Non Line of Sight – Cannon (NLOS-C) Non-Lethal Munitions.

XM982 Projectile funds the development of the Excalibur 155mm projectile and integration of the Unitary warhead (Block I) and Discriminating (Block III). 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 Future Objective Force. The Excalibur will be compatible with the Non Line of Sight-Cannon (NLOS-C) and the Joint Lightweight 155 (JLW155). 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 Stryker Brigade Combat Team (SBCT) to Future transition path of 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

Advanced Field Artillery Munition (AFAM) funds the development of the Future Combat System – Cannon (FCS-C) Non-Lethal Munitions. This system supports the Future transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 102188 | 133994 | 153389 |
| Current Budget (FY 2005 PB) | 102141 | 122631 | 133297 |
| Total Adjustments | -47 | -11363 | -20092 |
| Congressional program reductions | | -10000 | |
| Congressional rescissions | | -1054 | |
| Congressional increases | | | |
| Reprogrammings | -47 | -309 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -20092 |

FY05: Transfer to procurement (-$19.0M)to fund Initial Capability Excalibur projectiles for the Joint Lightweight 155. Funds realigned (-$1.1M) to higher priority requirements.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Artillery Munitions - EMD** | **708** |

| COST (In Thousands) | FY 2003 Actual | 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 | 102141 | 122631 | 133297 | 114444 | 100378 | 81188 | 92630 | Continuing | Continuing |

**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 Discriminating Variant (Block III). 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 (FCS) Non-Line of Sight Cannon (NLOS-C) and the digitized Joint Lightweight 155 (JLW155) howitzer. The Excalibur will allow greater standoff and faster defeat of potential threats, increasing soldier survivability while reducing the ammunition workload. 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 compliance testing in accordance with the Joint Ballistics Memorandum of Understanding (JBMOU). 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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue airframe tactical structure and projectile integration efforts to conduct contractor development testing with merged Excalibur-TCM design. | 22615 | 29664 | 28550 |
| Continue guidance unit integration, gun hardening, tactical telemetry, systems software development, and programmed maneuver flight demonstration. | 30763 | 38762 | 43257 |
| 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. | 14122 | 18847 | 23166 |
| Continue Unitary warhead development, to include structure penetration, and fragmentation testing | 10512 | 9483 | 9330 |
| 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. | 7600 | 8234 | 8474 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue merger assessment of technology of TCM program with Excalibur program. | 7500 | 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. | 9029 | 0 | 0 |
| Procure and test 30 structure test projectiles, 16 soft recovery Guidance system evaluation test projectiles, 6 full up system rounds, and 48 warhead test projectiles for FY04 Contractor Development Testing. | 0 | 7390 | 0 |
| Procure and test 22 structure test projectiles, 15 soft recovery Guidance system evaluation test projectiles, 32 full up system rounds, and 90 warhead test projectiles for FY05 Contractor Development Testing. | 0 | 0 | 13520 |
| SS-SFM JBMOU Testing | 0 | 6724 | 7000 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 3527 | 0 |
| Totals | 102141 | 122631 | 133297 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Procurement Ammunition Army: E80103 | 0 | 0 | 16960 | 54523 | 80033 | 174445 | 285402 | 3677670 | 4289033 |
| OPA2: Enhanced Portable Inductive Fuze Setter (E-PIAFS): AD3260 | 0 | 0 | 1985 | 4994 | 4500 | 4200 | 0 | 0 | 15679 |
| RDTE: 0604814A D709 Advanced Field Artillery Munition | 0 | 0 | 0 | 0 | 14864 | 19809 | 20889 | 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. In coordination with the Defense Acquisition Executive, the Army has implemented a spiral development process to provide for early fielding of projectiles to the Joint Lightweight (JLW) howitzer platforms. The first spiral (Ia-1) will meet the most critical Operational Requirement Document (ORD) Block Ia Key Performance Parameter (KPP) requirements and will be ready for fielding by the fourth quarter fiscal year (FY) 2006. The second spiral (Ia-2) will meet all of the ORD Block Ia KPP requirements and will field to the Future Combat System's Non-Line of Sight Cannon (NLOS-C) in addition to JLW by the fourth quarter FY08. The third spiral (Ib-1) will meet all of the ORD Block Ib KPP requirements and will be fielded to both NLOS-C & JLW by the fourth quarter FY11.

JBMOU compliance testing includes safety certification and firing table development. This strategy includes funding for compliance testing only. It does not fund procurement of projectiles for the stockpile.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

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 | 68978 | 1-4Q | 79570 | 1-4Q | 84075 | 1-4Q | Continue | 314496 | 418737 |
| b . Award Fee on Excalibur Development Contract | N/A | Raytheon Missile System,Tucson, AZ | 0 | 4604 | 2-4Q | 5929 | 2-4Q | 13973 | 2-4Q | Continue | 24506 | 33848 |
| c . TCM Merger Assessment | FP | Bofors Defence | 3430 | 11000 | 1-3Q | 0 | | 0 | | 0 | 14430 | 10930 |
| d . Platform Integration-Systems Contractor | CPAF | TBD | 0 | 0 | | 150 | 1Q | 150 | 1Q | 600 | 900 | 1500 |
| e . Misc Support Contracts | Various | Various | 367 | 500 | 1-4Q | 530 | 1-4Q | 530 | 1-2Q | Continue | 1927 | 1367 |
| f . Platform Integration/Fire Control | SS/CPIF | Raytheon AFATDS, Ft Wayne, IN | 0 | 68 | 1Q | 520 | 1Q | 1200 | 1Q | Continue | 1788 | 1830 |
| g . Platform Integration Firing Tables Development | MIPR | TACOM-ARDEC, Firing Tables Branch | 0 | 400 | 2Q | 420 | 1Q | 441 | 1Q | Continue | 1261 | 0 |
| h . SS-SFM Test Projectiles | C/FFP | TBD | 0 | 0 | | 5084 | 2Q | 5900 | 1Q | 0 | 10984 | 0 |
| i . Platform Integration | CPIF | BAE | 0 | 0 | | 3739 | 3Q | 4000 | 2Q | 0 | 7739 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 85670 | 85550 | | 95942 | | 110269 | | Continue | 378031 | 468212 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

PROJECT
**708**

| 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 | 4500 | 1-4Q | 3208 | 1-4Q | 3337 | 1-4Q | Continue | 15414 | 0 |
| b . Government IPT Support-Excalibur XM982 | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 11013 | 3874 | 1-4Q | 7128 | 1-4Q | 5702 | 1-4Q | Continue | 27717 | 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 | 850 | 2Q | 850 | 1Q | 426 | 1Q | Continue | 2680 | 0 |
| e . Paladin Platform Integration | MIPR | PM Paladin/TACOM-ARDEC, Picatinny Arsenal, NJ | 450 | 200 | 1-4Q | 0 | | 0 | | 0 | 650 | 0 |
| f . Modeling and Structural Development | MIPR | Army Research Labs, Adelphi, MD | 1401 | 920 | 2-3Q | 1200 | 1-2Q | 852 | 1-2Q | Continue | 4373 | 0 |
| g . Govt IPT Support Platform Integration | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 2951 | 500 | 1-4Q | 2140 | 1-4Q | 1605 | 1-4Q | 4190 | 11386 | 0 |
| h . Milestone Support | SS/FP | Camber, Alexandria, VA | 299 | 300 | 2Q | 221 | 2Q | 250 | 2Q | Continue | 1070 | 0 |
| i . Technical Spt Contract for Platform Integration | SS/FP | Camber, Dallas, TX | 179 | 120 | 2Q | 150 | 1-2Q | 160 | 1-2Q | 247 | 856 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| j . Fire Control development support | PM EFCS / TSM AFATDS | Ft Monmouth, NJ/Ft Sill, OK | 0 | 200 | 2-3Q | 210 | 1-2Q | 221 | 1-2Q | Continue | 631 | 0 |
| k . Miscellaneous Support | MIPR | Various | 252 | 120 | 1-4Q | 253 | 1-4Q | 250 | 1-4Q | Continue | 875 | 0 |
| l . Platform Integration Software Support | MIPR | Navy Surface Warfare Center, MD | 80 | 100 | 2-4Q | 210 | 1-4Q | 250 | 1-4Q | 100 | 740 | 0 |
| m . PM CAS SS-SFM | In-House | PM CAS, Picatinny Arsenal, NJ | 0 | 0 | | 250 | 1Q | 250 | 1Q | 0 | 500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 22108 | 12034 | | 15820 | | 13303 | | Continue | 67802 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

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 . TECOM Test Range | MIPR | YPG, Yuma, AZ | 4400 | 1989 | 2-4Q | 3100 | 1-4Q | 3500 | 1-4Q | Continue | 12989 | 0 |
| b . Test Instrumentation and Analysis | MIPR | Army Research Labs, Adelphi, MD | 540 | 750 | 2-4Q | 1212 | 1-4Q | 1300 | 1-4Q | Continue | 3802 | 0 |
| c . Telemetry Support | SS/FF | Physical Science Laboratories (PSL), Las Cruces, NM | 676 | 400 | 2Q | 420 | 1Q | 420 | 1Q | Continue | 1916 | 0 |
| d . Telemetry Support | MIPR | TACOM-ARDEC, Picatinny Arsenal, NJ | 1386 | 258 | 2Q | 3397 | 1Q | 1185 | 1Q | Continue | 6226 | 0 |
| e . Telemetry Cryptographic Support | MIPR | Ft. Huachuca, AZ | 78 | 60 | 1Q | 0 | 1Q | 0 | 1Q | Continue | 138 | 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 | 180 | 2Q | 140 | 2Q | 450 | 2Q | 6179 | 6949 | 0 |
| h . Target Replacement, Definition, Maintenance and Repair and Threat Assessment | MIPR | Various | 100 | 100 | 2-4Q | 100 | 1-2Q | 1200 | 1-2Q | Continue | 1500 | 0 |
| i . ARDEC Testing | MIPR | ARDEC, Picatinny Arsenal, NJ | 475 | 300 | 2-4Q | 300 | 1-4Q | 300 | 1-4Q | 685 | 2060 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

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, NY | 2050 | 520 | 2-4Q | 1200 | 1-2Q | 520 | 1-2Q | 0 | 4290 | 0 |
| k . SS-SFM Testing | MIPR | TBD | 0 | 0 | | 1000 | 4Q | 850 | 3Q | 0 | 1850 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 9766 | 4557 | | 10869 | | 9725 | | Continue | 41781 | 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: | | | 117544 | 102141 | | 122631 | | 133297 | | Continue | 487614 | 468212 |

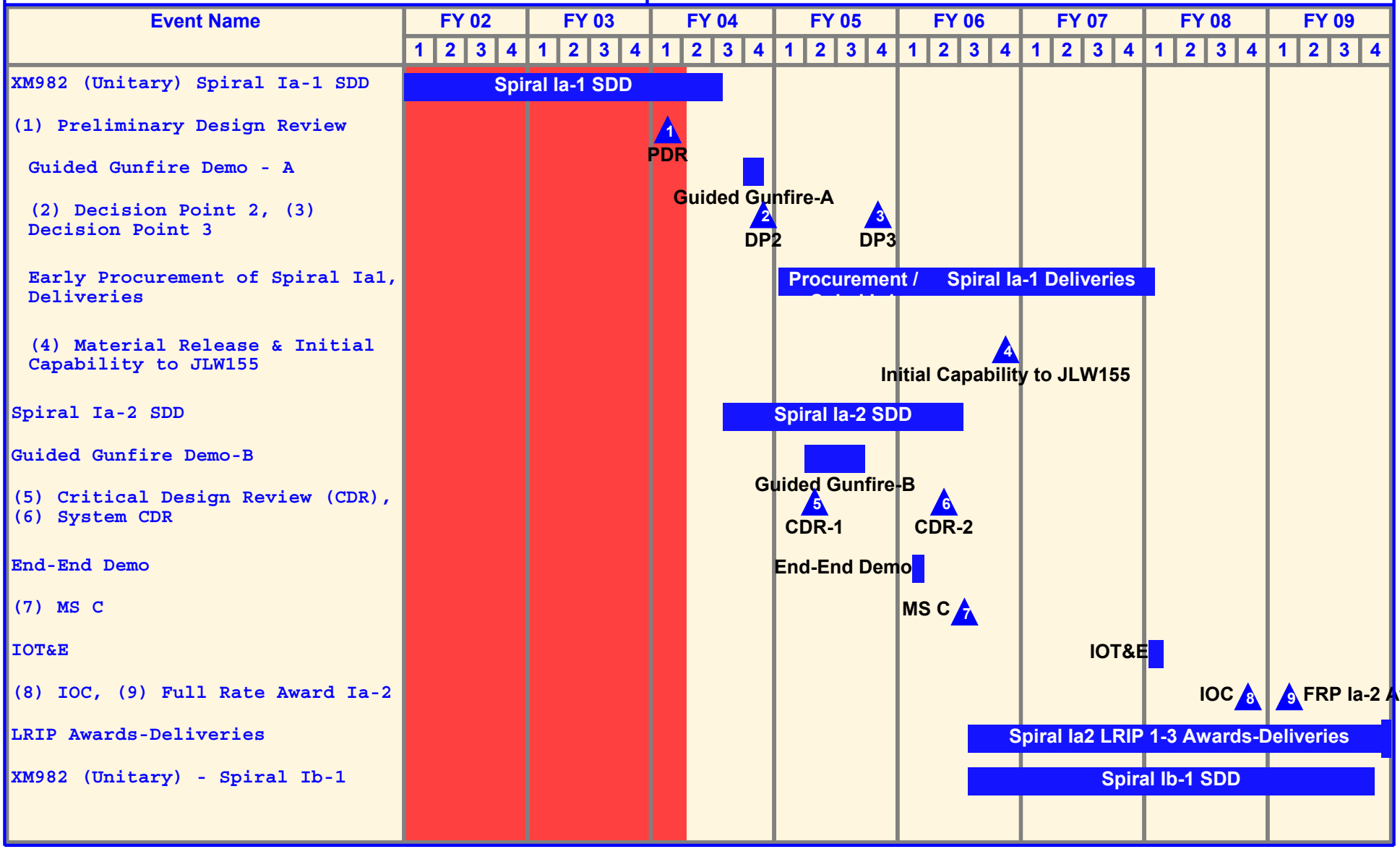
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604814A - Artillery Munitions - EMD**

PROJECT
**708**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Artillery Munitions - EMD** | **708** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Warhead Contractor Development Test Firing | 1-4Q | 1-4Q | 1-3Q | | | | |
| Guidance Soft Recovery Testing/Sys. Reliability Growth | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | |
| Guided Gunfire A (Tactical Guidance System Testing) | | 3Q | | | | | |
| Early Fielding Production | | | 1Q | | | | |
| Guided Gunfire B (Initial Full System Test Firing) | | | 2Q | | | | |
| System Critical Design Review (CDR) -1 | | | 2Q | | | | |
| System Final CDR -2 | | | | 2Q | | | |
| Inductive Fuze Setter Preliminary Design Review (PDR) | | 2Q | | | | | |
| Inductive Fuze Setter CDR | | | 3Q | | | | |
| Start Developmental Technical (DT) Test, Evaluation & Qualification | | | | 1Q | | | |
| Milestone C | | | | 3Q | | | |
| Initial Capability to JLW155 | | | | 4Q | | | |
| Complete Developmental Technical Test and Evaluation | | | | | 2Q | | |
| Award LRIP II Contract | | | | | 2Q | | |
| System IOT&E | | | | | | 1Q | |
| System IOC | | | | | | 4Q | |
| Spiral 1b-1 IPR | | | | 3Q | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604814A - Artillery Munitions - EMD** | **709** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 0 | 14864 | 19809 | 20889 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Advanced Field Artillery Munition (AFAM) funds the development of Future Combat System-Cannon (FCS-C) Non-Lethal Munitions.

**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 (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

| COST (In Thousands) | | FY 2003 Actual | 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 | | 4983 | 11817 | 6994 | 2991 | 4955 | 6932 | 5941 | Continuing | Continuing |
| 482 | GROUND COMBAT IDENTIFICATION | 0 | 3504 | 6994 | 2991 | 4955 | 6932 | 5941 | Continuing | Continuing |
| 902 | INDIVIDUAL COMBAT IDENTIFICATION SYSTEM (ICIDS) | 4983 | 8313 | 0 | 0 | 0 | 0 | 0 | 0 | 19055 |

**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 ground-to-ground and air-to-ground combat identification technology to the Future Force with potential application as an embedded solution. 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.

These systems support the Current/Future Force transition path of the Transformation Campaign Plan (TCP).

FY05 funds will identify technical solutions for reducing the unit procurement costs of Battlefield Target Identification Devices (BTID) for vehicle-to-vehicle fratricide reduction. These funds will also be used for the development of the concept of operations and tactics, techniques and procedures (TTP) for Radio Frequency Tags (RF Tags) to achieve reductions in air-to-ground fratricide.

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 4985 | 3541 | 0 |
| Current Budget (FY 2005 PB) | 4983 | 11817 | 6994 |
| Total Adjustments | -2 | 8276 | 6994 |
| Congressional program reductions | | -112 | |
| Congressional rescissions | | | |
| Congressional increases | | 8400 | |
| Reprogrammings | -2 | -12 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 6994 |

FY2005: The $6.994M adjustment is for Army and Joint Forces Command (JFCOM) enhancements. It is a combination of $$3.994M that will provide for a Battlefield Target Identification cost reduction study and $3.000M that will fund flight tests and the development of the concept of operations and Tactical Targeting Programs for RF Tags.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **482** |

| COST (In Thousands) | FY 2003 Actual | 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 COMBAT IDENTIFICATION | 0 | 3504 | 6994 | 2991 | 4955 | 6932 | 5941 | Continuing | Continuing |

**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.

These funds support the transition of Air-to-Ground Combat Identification technology to the Future Force (FF). As the CCID Transition Manager and Co-Chairman of the FIST Working Group, PM TIMS will cost-share the building of prototype Air-to-Ground Combat Identification systems to be evaluated in an operational demonstration and continue to use these prototypes to design vehicle integration solutions.

FY05 funding will identify technical solutions for reducing the unit procurement costs of the Battlefield Combat Identification Devices (BTID) for vehicle-to-vehicle fratricide reduction. These funds will also develop the concept of operations and tactics, techniques, and procedures (TTP) for Radio Frequency Tags (RF Tags) to achieve reductions in air-to-ground fratricide.

This system suports the Current/Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Design and Develop Potential Air-to-Ground CID Solution | 0 | 2898 | 0 |
| Identify technical solutions for reducing the unit procurement costs of BTID for vehicle-to-vehicle fratricide reduction. | 0 | 0 | 3994 |
| Development of the concept of operation and TTPs for RF Tags to achieve reductions in air-to-ground fratricide. | 0 | 0 | 2500 |
| Conduct fixed and rotary-wing flight tests. | 0 | 0 | 500 |
| Develop the NATO interoperable CID technology for the International CID program | 0 | 439 | 0 |
| Undistributed Congressional Adjustments | 0 | 65 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 102 | 0 |
| Totals | 0 | 3504 | 6994 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **482** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA2, SSN BA0510, Combat Identification Program | 973 | 0 | 0 | 0 | 0 | 0 | 6000 | 0 | 12529 |
| RDT&E, PE 654645 Project 470, Future Combat Systems Progam - SDD | 157649 | 1245118 | 2734900 | 3547091 | 2631654 | 1266385 | 326817 | 35000000 | 46909614 |
| WTCV, SSN G86100, Future Combat Systems | 0 | 0 | 0 | 0 | 753000 | 3185000 | 3145000 | 13568000 | 20651000 |

**C. Acquisition Strategy:** FY04 dollars will fund the FCS Integrated Support Team (FIST) efforts for the FCS Combat ID (CID) Architecture. Sandia National Labs, Intelligence and Information Wargare Director (I2WD) and Program Manager, Tactical Information Systems (PM TIMS) will be executing these efforts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Air-to-Ground Solution Efforts | MIPR | Sandia National Labs/DOE | 0 | 0 | | 2628 | 2-3Q | 0 | | 0 | 2628 | 0 |
| f . Combat Identification International Efforts | TBD | TBD | 0 | 0 | | 445 | 2-3Q | 0 | | 0 | 445 | 0 |
| g . BTID Cost Reduction Studies | TBD | TBD | 0 | 0 | | 0 | | 3674 | 1Q | 3022 | 6696 | 0 |
| h . RF Tags Program Efforts | TBD | TBD | 0 | 0 | | 0 | | 3000 | 1Q | 0 | 3000 | 0 |
| i . SDD for Non-FCS UofA Vehicular CI Solution | TBD | TBD | 0 | 0 | | 0 | | 0 | | 16199 | 16199 | 0 |
| j . SBIT/STTR | Various | | 0 | 0 | | 102 | 2Q | 0 | | 0 | 102 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| 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: | | | 89874 | 0 | | 3175 | | 6674 | | 19221 | 118944 | 84038 |

| 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 | | 50 | 2Q | 100 | 1Q | 0 | 8390 | 0 |
| b . System Eng/Tech Assistance | T&M/MIPR | COLSA, Falls Church, VA; Sytex, Eatontown, NJ | 7057 | 0 | | 95 | 2Q | 100 | 1Q | 0 | 7252 | 0 |
| c . Test Planning | MIPR | CECOM, Fort Monmouth NJ | 437 | 0 | | 0 | | 0 | | 0 | 437 | 0 |
| d . Technical Support | MIPR | Sandia National Laboratories/IDA | 570 | 0 | | 0 | | 0 | | 0 | 570 | 0 |
| e . SDD Matrix Support | MIPR | TBD | 0 | 0 | | 0 | | 0 | | 250 | 250 | 0 |
| f . SDD Technical Support | MIPR | TBD | 0 | 0 | | 0 | | 0 | | 250 | 250 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16304 | 0 | | 145 | | 200 | | 500 | 17149 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| 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 | ATEC, YPG, AZ | 3513 | 0 | | 0 | | 0 | | 0 | 3513 | 0 |
| b . Limited User Test | MIPR | ATEC, YPG, AZ | 673 | 0 | | 0 | | 0 | | 0 | 673 | 0 |
| c . ASCIET | MIPR | Misc. | 6651 | 0 | | 0 | | 0 | | 0 | 6651 | 0 |
| d . SDD DT/OT | MIPR | TBD | 0 | 0 | | 0 | | 0 | | 1000 | 1000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 10837 | 0 | | 0 | | 0 | | 1000 | 11837 | 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, Ft. Monmouth, NJ | 5454 | 0 | | 119 | 1-4Q | 120 | 1-4Q | 0 | 5693 | 0 |
| b . SDD Program Management | In-house Support | PM NavSys/TIMS, Ft. Monmouth, NJ | 0 | 0 | | 0 | | 0 | | 500 | 500 | 0 |
| c . Undistributed Congressional Adjustments | Adjustments | PM NavSys/TIMS, Ft. Monmouth, NJ | 0 | 0 | | 65 | 2Q | 0 | | 0 | 65 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**

| 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: | | | 5454 | 0 | | 184 | | 120 | | 500 | 6258 | 0 |
| Project Total Cost: | | | 122469 | 0 | | 3504 | | 6994 | | 21221 | 154188 | 84038 |

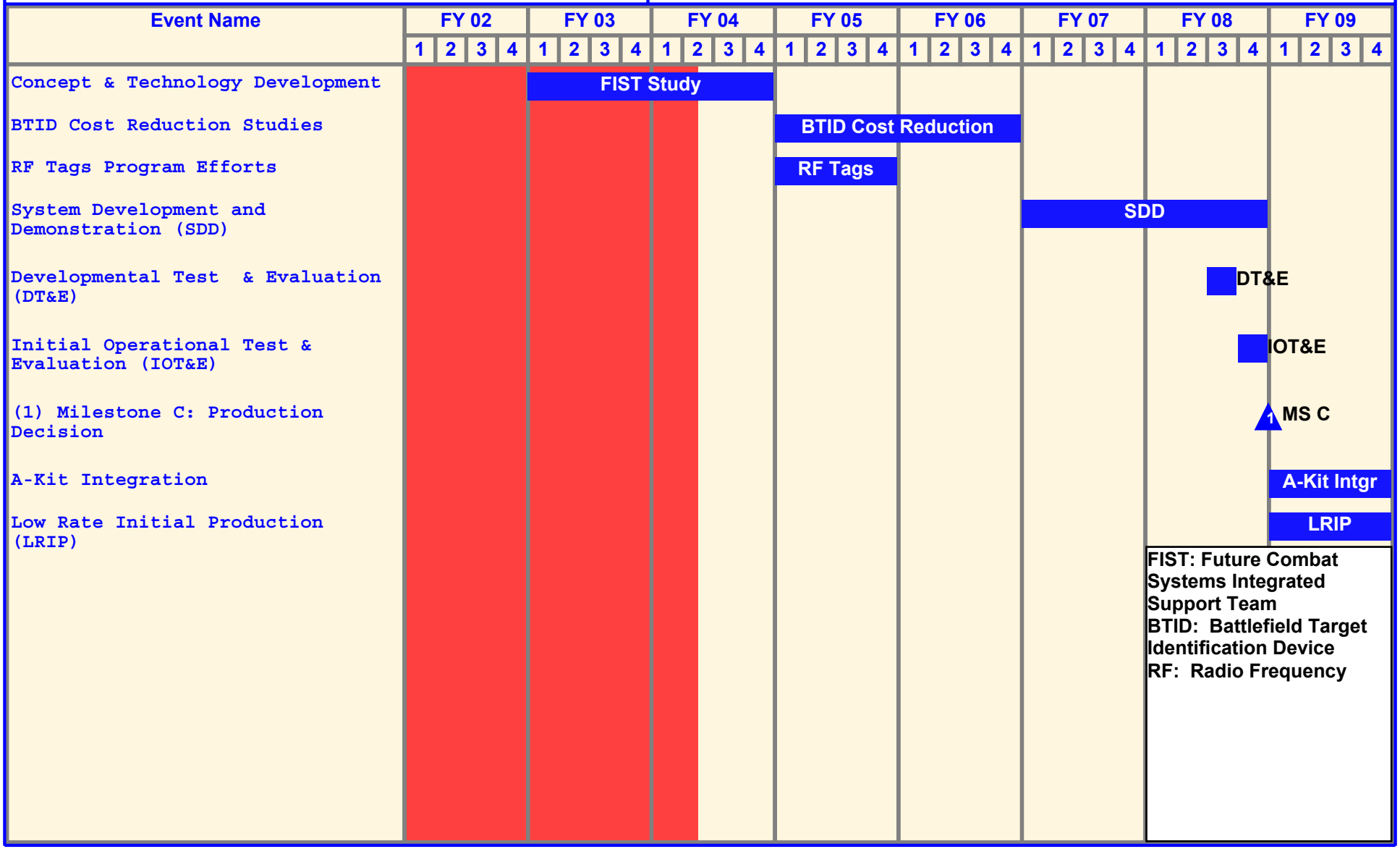
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604817A - Combat Identification**

PROJECT
**482**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **482** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Milestone (MS) B for FCS | 3Q | | | | | | |
| Design and Develop Air-to-Ground CID Solution | | 1-4Q | | | | | |
| Transition Air-to-Ground solution to FCS/FF programs | | 4Q | | | | | |
| Execute Combat Identification International program efforts | | 1-4Q | | | | | |
| Conduct BTID Cost Reduction Studies | | | 1-4Q | 1-4Q | | | |
| RF Tags Program Efforts | | | 1-4Q | | | | |
| SDD for the Non-FCS Unit of Action Vehicular Combat Identification Solution | | | | 1-4Q | 1-4Q | | |
| MS C for the Non-FCS Unit of Action Vehicular Combat Identification Solution | | | | | | 4Q | |
| Integration Efforts for the Non-FCS Unit of Action Vehicular Combat Identification Solution | | | | | | | 1-4Q |
| LRIP for the Non-FCS Unit of Action Vehicular Combat Identification Solution | | | | | | | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **902** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 4983 | 8313 | 0 | 0 | 0 | 0 | 0 | 0 | 19055 |

**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 in Fiscal Year 2002, 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. Combat Identification (CID) is a combination of Target Tidentification (TI), Situation Awareness (SA) and Tactics, Techniques and Procedures. The Integrated Battlespace Combat Situation Awareness System (IBCSAS) is focused on the SA piece of Combat Identification and is an alternative technology approach to providing soldier to soldier combat identification functionality into the Land Warrior System. This is in line with the goal of Network Centric Warfare for the Future Force. By enhancing situation awareness at the soldier level and provding the capability to report position, location and tracking (PLT) information in a Network Centric environment, identification of friendly forces will be enhanced. The Land Warrior System provides PLT and SA via the Navigation Subsystem and Global Positioning System (GPS), and the Communication Subsystem. IB-CSAS technologies under investigation will provide PLT in GPS denied areas such as urban terrain and offer beyond line of site tracking and targeting capabilities.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop Ultra Wide Band and Geometric Pairing algorithms and software hosted on man-portable platforms for demonstration in a Military Operations on Urbanized Terrain (MOUT) environment. | 4983 | 0 | 0 |
| Enhance performance, accuracy and range of Ultra Wide Band and Geometric Pairing and bring GP beyond 2 dimensions. Demonstrate enhanced UWB and GP as well as RF-Tag technologies on man-portable platforms in a MOUT environment. | 0 | 8071 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 242 | 0 |
| Totals | 4983 | 8313 | 0 |

| B. Other Program Funding Summary | 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 | 6811 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16775 |
| RDTE, 604713A, D667 Land Warrior | 53949 | 81029 | 91279 | 104793 | 115729 | 128791 | 86853 | Continuing | Continuing |
| RDTE, 0603001, DJ50, Future Warrior Technology Integration | 37499 | 44476 | 56676 | 62579 | 47880 | 74806 | 75220 | Continuing | Continuing |
| OPA3, M80500, Land Warrior | 0 | 1538 | 8896 | 89700 | 193458 | 157673 | 149960 | Continuing | Continuing |
| OPA4, MS3610, Land Warrior Initial Spares | 0 | 667 | 711 | 851 | 967 | 490 | 128 | Continuing | Continuing |

**C. Acquisition Strategy:** The Individual Combat Identification System (ICIDS) program was terminated by the Army in FY 02, precipitated by the need to fund other high priority programs supporting Army Transformation. The Integrated Battlespace Combat Situation Awareness System (IBCSAS) is an alternative technology approach to providing soldier-to-soldier-combat identification functionality into the Land Warrior System.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . Integrated Battlefield Combat Situational Awareness | C/CPIF | General Dynamics, Scottsdale, AZ | 0 | 3459 | 4Q | 6742 | 1Q | 0 | | 0 | 10201 | 10192 |
| b . ICIDS (previous years) | | | 2892 | 0 | | 0 | | 0 | | 0 | 2892 | 0 |
| c . SBIR/STTR | Various | | 0 | 0 | | 242 | 1Q | 0 | | 0 | 242 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2892 | 3459 | | 6984 | | 0 | | 0 | 13335 | 10192 |

Remarks: Boeing is a sub-contractor effort to General Dynamics.

| 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 | MIPR | Various | 0 | 1435 | 4Q | 825 | 1-2Q | 0 | | 0 | 2260 | 925 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1435 | | 825 | | 0 | | 0 | 2260 | 925 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| 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 | MIPR/In-house | Fort Monmouth, NJ | 0 | 89 | 4Q | 504 | 1-2Q | 0 | | 0 | 593 | 610 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 89 | | 504 | | 0 | | 0 | 593 | 610 |
| Project Total Cost: | | | 2892 | 4983 | | 8313 | | 0 | | 0 | 16188 | 11727 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604817A - Combat Identification** | **902** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| IBCSAS Contract Award | 4Q | | | | | | |
| MOUT Site Survey/Selection of man-portable hardware | 4Q | | | | | | |
| Phase I Demonstration | | 3Q | | | | | |
| Phase II Demonstration | | 4Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE |
|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** |

| COST (In Thousands) | | FY 2003 Actual | 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 | | 97970 | 101166 | 69110 | 79660 | 59451 | 229877 | 288721 | Continuing | Continuing |
| 323 | COMMON HARDWARE SYSTEMS | 18117 | 6453 | 6446 | 6514 | 6786 | 7078 | 7354 | 0 | 85646 |
| 334 | COMMON SOFTWARE | 14201 | 25533 | 21006 | 32197 | 26121 | 21868 | 24335 | Continuing | Continuing |
| C12 | STANDARD INTEGRATED COMMAND POSTS (SICPS) | 2393 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2393 |
| C29 | CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF) | 11057 | 11571 | 11921 | 12172 | 12461 | 12862 | 13224 | 0 | 85268 |
| C34 | ARMY TAC C2 SYS ENG | 12931 | 28211 | 10824 | 17541 | 3179 | 188069 | 243808 | 0 | 547124 |
| C39 | TACTICAL OPERATIONS CENTERS (TOCS) | 5031 | 6488 | 10918 | 4250 | 4332 | 0 | 0 | 0 | 44472 |
| C3A | ARMY AIRBORNE COMMAND & CONTROL SYS (A2C2S) | 34240 | 22910 | 7995 | 6986 | 6572 | 0 | 0 | 0 | 78703 |

**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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 96326 | 98129 | 86950 |
| Current Budget (FY 2005 PB) | 97970 | 101166 | 68110 |
| Total Adjustments | 1644 | 3037 | -18840 |
| Congressional program reductions | | -961 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 1644 | 4100 | |
| SBIR/STTR Transfer | | -102 | |
| Adjustments to Budget Years | | | -18840 |

FY05 delta: Funds (-18840) result of ABCS "Good Enough" and realignment to higher priority requirements

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **323** |

| COST (In Thousands) | FY 2003 Actual | 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 | 18117 | 6453 | 6446 | 6514 | 6786 | 7078 | 7354 | 0 | 85646 |

**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 components/system operating software and associated peripherals to meet developmental and fielding needs. This project provides a ruggedized information technology line to over 80 Army and DoD customers. CHS provides woeldwide repair, maintenance and logistic support through regional support centers (RSCs). The CHS program is instrumental in digitizing the battlefield. This program supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue management of the acquisition and delivery of CHS-2 and CHS-3 equipment in support of customer requirements | 3156 | 5145 | 5646 |
| Continued follow-on contract requirements effort (CHS-3) | 1513 | 0 | 0 |
| Continue supporting customers testing efforts with CHS equipment | 300 | 300 | 300 |
| ABCS System Engineering and Integration efforts | 648 | 0 | 0 |
| CHS-3 follow-on contract awarded (Non-Recurring Engineering costs) | 12000 | 0 | 0 |
| Continue CHS technology insertion | 500 | 1008 | 500 |
| Totals | 18117 | 6453 | 6446 |

**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), standardized protocols and reusable commercial common software. This project provides a coherent migration strategy for ABCS systems through the use of technolgy insertion.

CHS also conducts centralized environmental and developmental testing of hardware items thereby reducing the testing requirements for individual BFAs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . GDC4S/CHS-3 Non-Recurring Engineering | FFP/IDIQ | Taunton, MA | 0 | 12000 | 3Q | 0 | | 0 | | 12000 | 12000 | 0 |
| b . Technical Insertion | Various | Various | 10269 | 500 | 1-3Q | 916 | 1-3Q | 500 | 1-3Q | Continue | 12185 | 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 | 894 | 1Q | Continue | 13830 | 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 | 2012 | 1-2Q | 1502 | 1-2Q | 1562 | 1-2Q | Continue | 27336 | 0 |
| h . Govt support-Engineering/Logistics/CHS-2 ordering and CHS-3 efforts | MIPR | Fort Monmouth, NJ/Huntsville, AL | 44410 | 1675 | 1-3Q | 2614 | 1-3Q | 3190 | 1-3Q | Continue | 51889 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 17817 | | 6153 | | 6146 | | Continue | 142417 | 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 | 3-4Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 300 | 300 | | 300 | | 300 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 18117 | | 6453 | | 6446 | | Continue | Continue | 0 |

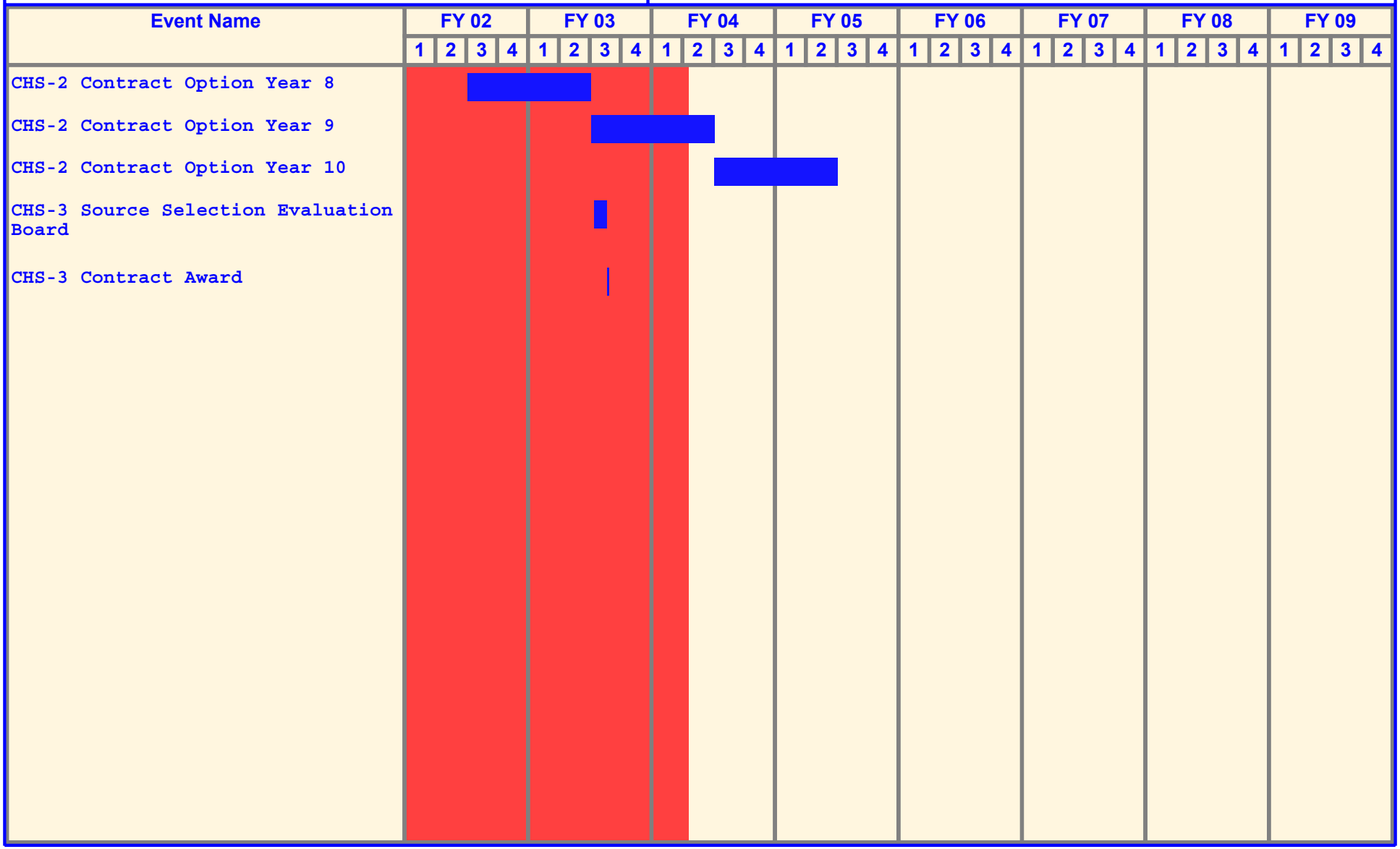
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**323**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **323** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| CHS Technology Insertion (continuous) | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q | 1-3Q |
| CHS-3 Request for Proposal | 2Q | | | | | | |
| CHS-3 contract award | 3Q | | | | | | |
| Initial CHS-3 V1 software integration hardware deliveries | | 2Q | | | | | |
| Initial CHS-3 V2 software integration hardware deliveries | | | 2Q | | | | |
| CHS-2 contract expires | | | 3Q | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **334** |

| COST (In Thousands) | FY 2003 Actual | 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 | 14201 | 25533 | 21006 | 32197 | 26121 | 21868 | 24335 | 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 Common Operating Environment (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 Current to Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | 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 current to future force technologies in support of the Future Combat System (FCS) and the Army's way ahead. | 864 | 6813 | 7154 |
| 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. | 3484 | 15977 | 13852 |
| 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. | 4291 | 2000 | 0 |
| ABCS System Engineering and Integration Efforts | 210 | 0 | 0 |
| Integrate the Army's Advanced Warfare Environment's commercial 3D display technology development to support command and control modernization initiatives. | 5352 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 743 | 0 |
| Totals | 14201 | 25533 | 21006 |

| **B. Other Program Funding Summary** | 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 |

**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(R3)

**February 2004**

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 | MIPR | CECOM, Fort Monmouth, NJ | 718 | 364 | 1-3Q | 376 | 1-3Q | 395 | 1-3Q | Continue | Continue | 0 |
| b . Engineering/Software Development | C, T&M | Various GSA Contractors / Various Locations | 10530 | 7550 | 1-3Q | 12315 | 1-3Q | 10145 | 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 Corp., Johnstown, PA | 0 | 5352 | 3Q | 0 | | 0 | | 0 | 5352 | 0 |
| e . Digital System Engineers | | Various Contractors | 0 | 0 | | 7000 | 1-2Q | 7130 | 1-2Q | Continue | Continue | 0 |
| f . DISA Support for COE | MIPR | | 0 | 0 | | 1486 | 1-2Q | 1635 | 1-2Q | Continue | Continue | 0 |
| g . IDM-T Engineering Support | MIPR | GSA Contractors | 0 | 0 | | 2000 | 1-3Q | 0 | | 0 | 2000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 11248 | 13476 | | 23177 | | 19305 | | Continue | Continue | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**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 . Program Support | In-house | PM GCC2, Ft. Monmouth, NJ | 0 | 0 | | 777 | 1-3Q | 816 | 1-3Q | Continue | Continue | 0 |
| b . Automation Support | C, T&M | PKMM, Oceanport, NJ | 199 | 150 | 1-2Q | 150 | 1-2Q | 165 | 1-2Q | Continue | Continue | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 199 | 150 | | 927 | | 981 | | 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: Development Testing (DT) is performed by development contractors and is covered under the Product Development section of this R-3. Operational Testing (OT) is funded by the applicable BFA application programs.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 686 | 1-4Q | 720 | 1-4Q | Continue | Continue | 0 |
| b . SBIR/STTR | | | 0 | 0 | | 743 | 1Q | 0 | | 0 | 743 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1096 | 575 | | 1429 | | 720 | | Continue | Continue | 0 |
| Project Total Cost: | | | 12543 | 14201 | | 25533 | | 21006 | | Continue | Continue | 0 |

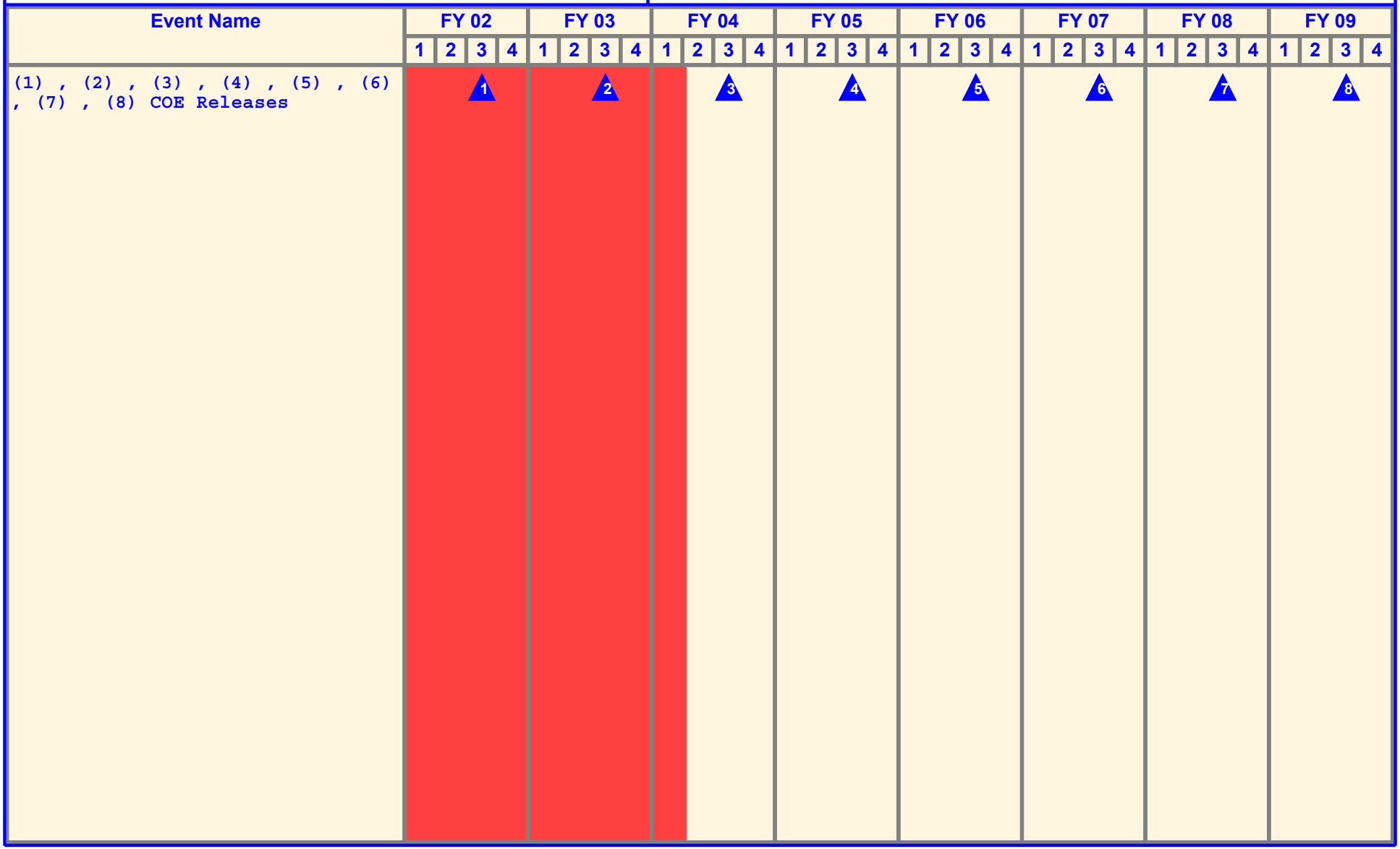
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**334**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **334** |

| Schedule Detail | 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 |

Note: COE software product deliveries are made every twelve (12) months.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C12** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 2393 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2393 |

**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 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). | 2393 | 0 | 0 |
| Totals | 2393 | 0 | 0 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA 2, BZ9962 | 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(R3)

**February 2004**

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 | 1985 | 3Q | 0 | | 0 | | Continue | 1985 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 1985 | | 0 | | 0 | | Continue | 1985 | 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(R3)

**February 2004**

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 | 2393 | | 0 | | 0 | | Continue | Continue | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C29** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 11057 | 11571 | 11921 | 12172 | 12461 | 12862 | 13224 | 0 | 85268 |

**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 Current to Future transition path to the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue test planning/procedures/execution/reporting | 2102 | 2202 | 2304 |
| Continue software engineering. | 1907 | 2032 | 2086 |
| Provide infrastructure (Facilities, upgrades, additions). | 1400 | 1428 | 1440 |
| Continue field engineering. | 1237 | 1322 | 1304 |
| Continue management operations. | 1185 | 1310 | 1322 |
| Provide equipment for instrumentation, simulation/stimulation, software evaluation and development tools. | 725 | 900 | 905 |
| Continue configuration management. | 785 | 806 | 826 |
| Provide networks connections to include DISN, SIPRNET, NIPRNET, GUARDNET. | 300 | 308 | 315 |
| Provide logistics support. | 221 | 227 | 233 |
| Provide DA Mandated Intra-Army Digital Certification test and validation. | 1195 | 915 | 1186 |
| Small Business Innovative Research | 0 | 85 | 0 |
| Small Business Technology Transfer Programs | 0 | 36 | 0 |
| Totals | 11057 | 11571 | 11921 |

**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(R3)

**February 2004**

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 | 1010 | 1Q | 1104 | 1Q | Continue | 3220 | 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 | 749 | 1Q | 772 | 1Q | 790 | 1Q | Continue | 2311 | 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 | 8031 | | 8551 | | 8806 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**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(R3)

**February 2004**

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 | 11057 | | 11571 | | 11921 | | Continue | Continue | Continue |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C29** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Army Battle Command System (ABCS) 6.3 Test/Fixes/Integration | 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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C34** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 12931 | 28211 | 10824 | 17541 | 3179 | 188069 | 243808 | 0 | 547124 |

**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 6.30 and the Current to Future transition path to the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue Army Battle Command System (ABCS) Integrated Logistics Support | 890 | 483 | 187 |
| Continue ABCS Testing and Evaluation of all Battlefield Functional Area (BFA) fielded software | 775 | 1210 | 477 |
| Continue ABCS Fielding/Scheduling | 1222 | 2412 | 936 |
| Continue Digitized Divisions 2 thru N (DD2-N) / ABCS Integrated Training Support | 1134 | 2177 | 840 |
| Continue ABCS information engineering | 1319 | 2947 | 1126 |
| Conduct and support system interoperability engineering | 637 | 907 | 346 |
| Continue exploring state of the art technology insertion in support of the ABCS program | 417 | 472 | 180 |
| Continue development and implementation of the ABCS information assurance | 569 | 1170 | 452 |
| Continue ABCS System Engineering | 2897 | 8011 | 2266 |
| Continue System of Systems Development | 3071 | 7630 | 3014 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 707 | 0 |
| Small Business Technology Transfer Programs | 0 | 85 | 0 |
| Totals | 12931 | 28211 | 9824 |

**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(R3)

**February 2004**

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 | 565 | 1Q | Continue | 10028 | Continue |
| b . CSC, NICHOLS | C/CPAF | Fort Monmouth, NJ/Fort Hood, TX | 22188 | 3500 | 2Q | 6595 | 1Q | 1251 | 1Q | Continue | 33534 | Continue |
| c . MITRE | C/CPFF | Ft Monmouth, NJ/Eatontown, NJ | 13833 | 3681 | 2Q | 9911 | 1Q | 3533 | 1Q | Continue | 30958 | 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 | 540 | 1Q | Continue | 5512 | Continue |
| g . LOCKHEED MARTIN | C/CPAF | Eatontown, NJ | 3057 | 902 | 1-2Q | 2075 | 1Q | 652 | 1Q | Continue | 6686 | 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 | 1548 | 1-2Q | 185 | 1-2Q | Continue | 5888 | Continue |
| j . Unixpros | C/CPAF | Eatontown, NJ | 3711 | 0 | | 0 | | 0 | | 0 | 3711 | 3711 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 0 | 1Q | Continue | 1850 | Continue |
| l . IDA | MIPR | Fort Monmouth, NJ | 934 | 390 | 1-2Q | 400 | 1Q | 0 | 1Q | Continue | 1724 | 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 | 268 | 1-2Q | 478 | 1-2Q | 464 | 1-2Q | Continue | 1985 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 70837 | 11533 | | 25892 | | 8247 | | Continue | Continue | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 3469 | 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(R3)

**February 2004**

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 . SBIR/STTR | Various | | 0 | 0 | 1-4Q | 792 | | 0 | | 0 | 792 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 792 | | 0 | | 0 | 792 | 0 |
| Project Total Cost: | | | 83486 | 12931 | | 28211 | | 9824 | | Continue | Continue | Continue |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C34** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| ABCS 6.3.X | 1-4Q | 1Q | | | | | |
| NATIONAL TRAINING CENTER (NTC) ROTATIONS | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| ABCS 6.4 SOFTWARE DEVELOPMENT | 1-4Q | 1-4Q | 1-2Q | | | | |
| SBCT-2 FIELDING | 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 |
| FCS C2 SYSTEMS ENGINEERING & INTEGRATION | | | | | | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| COST (In Thousands) | FY 2003 Actual | 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) | 5031 | 6488 | 10918 | 4250 | 4332 | 0 | 0 | 0 | 44472 |

**A. Mission Description and Budget Item Justification:** The Tactical Operations Centers (TOCs) program supports Army Transformation in 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 network centric 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). Network centric 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. FY04 effort includes design, development, and testing of Command Post platforms (CPPs) and shelters for Current Force (eg. Counterattack Corps) and Stryker Brigade Combat Teams (SBCTs) that meet Army Approved ORD requirements. FY05 completes engineering and testing of CPPs and shelters and supports the integration of TOCs for Current Force and SBCTs. The SICPS program transferred to the TOCs program in FY04. Prior years depict TOCs only. SICPS prior year funding can be found in separate submission (PE 0604818A-C12). This system supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Design, engineering and test of Current Force TOCs | 2417 | 850 | 500 |
| Design, engineering and test of Stryker Brigade Combat Team TOCs | 1529 | 762 | 150 |
| Design, engineering and testing of Command Post Platforms (CPPs) | 0 | 475 | 9618 |
| Development, test of EMI tents | 125 | 175 | 0 |
| TOC 3D and Survivable Carrier | 0 | 4100 | 0 |
| ABCS SE & I | 395 | 0 | 0 |
| In-house Government Support | 565 | 126 | 650 |
| Totals | 5031 | 6488 | 10918 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Other Procurement Army 2 - SSN: BZ9865 | 41187 | 68997 | 50692 | 63555 | 50229 | 26781 | 10273 | 1849460 | 2204852 |

**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 Command Post Platforms and Tactical Operations Centers (TOCs). Contracting strategy calls for full and open competition.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 Force TOCs (4ID & 1CD) | C/CPFF | GDDS (Huntsville, AL) | 8651 | 1916 | 3Q | 0 | | 0 | | Continue | 10567 | Continue |
| b . Current Force TOCs (3/4ID & 3ACR) | TBD | TBD | 0 | 0 | | 850 | 2Q | 500 | 1Q | Continue | 1350 | Continue |
| c . SBCTs 1,2 & 3 | C/CPIF | NGMS (Huntsville, AL) | 6710 | 1955 | 2Q | 80 | | 0 | | Continue | 8745 | Continue |
| d . SBCTs 4 | TBD | TBD | 0 | 0 | | 682 | 2Q | 150 | 1Q | 0 | 832 | Continue |
| e . Command Post Platforms | TBD | TBD | 0 | 0 | | 365 | 3Q | 9440 | 1Q | Continue | 9805 | Continue |
| f . In-House and Government Support | | Various | 0 | 565 | 1-2Q | 126 | 1-2Q | 0 | | 0 | 691 | 0 |
| g . EMI Tent | | Various | 0 | 395 | 1Q | 175 | 2Q | 0 | | 0 | 570 | 0 |
| h . TOC 3D Survivable Carrier | | | 0 | 0 | | 4100 | 2Q | 0 | | Continue | 4100 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 15361 | 4831 | | 6378 | | 10090 | | Continue | 36660 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C39**

| 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 . Development Test | TBD | TBD | 0 | 0 | | 110 | 1-2Q | 828 | 1-2Q | 0 | 938 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 110 | | 828 | | 0 | 938 | 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 Engineering Support | MIPR | DTRA | 4232 | 0 | | 0 | | 0 | | 0 | 4232 | Continue |
| b . Contractor Support | | | 306 | 200 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4538 | 200 | | 0 | | 0 | | 0 | 4232 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 19899 | 5031 | | 6488 | | 10918 | | Continue | 41830 | Continue |

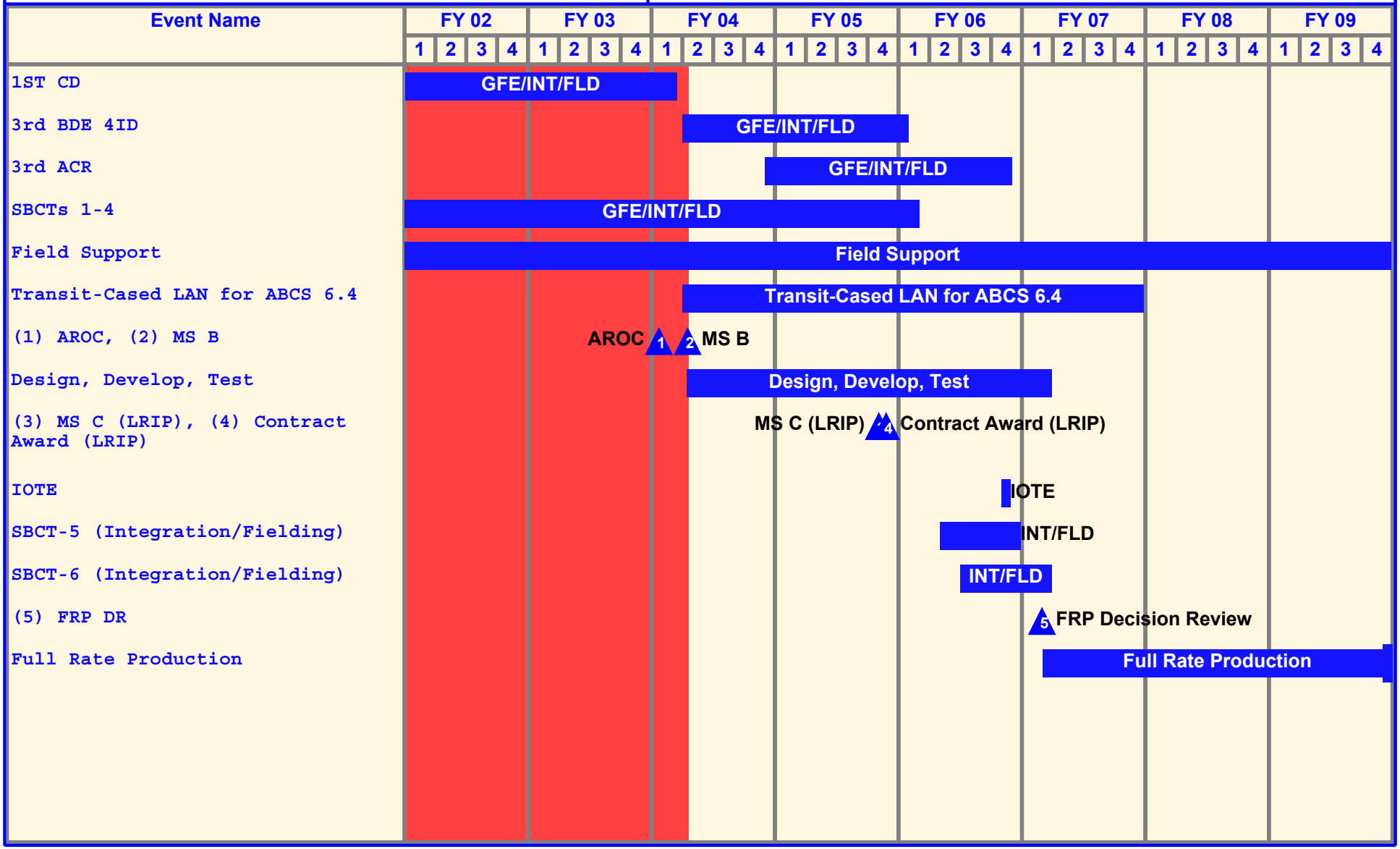
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C39**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C39** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Design Review - SBCT-3 | 3Q | | | | | | |
| Design Review - SBCT-4 | | 3Q | | | | | |
| Design Review - 3rd Brigade 4ID | | | 2Q | | | | |
| Design Review - 3rd ACR | | | 2Q | | | | |
| Design Review - Light Corps | | | 2Q | | | | |
| Design Review - Heavy Corps | | | | 2Q | | 2Q | 2Q |
| Design Review - Light Division | | | 2Q | 2Q | 2Q | | |
| Design Review - Light Division Plus | | | 2Q | | | | |
| Design Review - Heavy Division | | | | 2Q | 2Q | 2Q | 2Q |
| Design Review - Light ESB | | | 2Q | 2Q | | | |
| Design Review - Heavy ESB | | | | | 2Q | 2Q | 2Q |
| Design Review -SBCT-1,2,3,5&6 | | 2Q | 2Q | 2Q | 2Q | 2Q | |
| Design Review - SBCT-4 | | | | | | | 2Q |
| Design Review -SOF | | | 2Q | 2Q | 2Q | 2Q | |
| Design Review -SOF | | | 2Q | 2Q | 2Q | 2Q | |
| Design Review -Light Division (ARNG) | | | 2Q | 2Q | 2Q | | |
| Design Review- Heavy Division (ARNG) | | | | | | 2Q | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C3A** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 34240 | 22910 | 7995 | 6986 | 6572 | 0 | 0 | 0 | 78703 |

**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 acquisition program for a system supporting corps, division and brigade Commanders. The A2C2S enables Commanders from brigade to theatre levels, and their staffs, to traverse the battle space rapidly - maintaining situational awareness of all battlefield systems - and maintaining communications, tactical to CONUS reach back, throughout the decision continuum. The A2C2S routinely operates in linear and non-linear areas of operations, all the time providing information superiority with the common operational picture necessary for an accurate, near real-time perspective and knowledge of the situation to avoid enemy strengths while concentrating friendly assets for decisive and rapid victory. Another objective of the A2C2S program is to be the airborne first-responder for Homeland Security and disaster relief by providing a robust communications platform for emergency response coordinators of air and ground operations. It will support initial and remote scene operations center capabilities, convoy operations, and disaster coordination between state, federal, civilian and military assets. 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 the Future Force. 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 and control by hosting Battle Command applications. 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 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. This system supports the Current-to-Future transition path of the Transformation Campaign Plan (TCP)

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue System Development and Evaluation BLK I & BLK II | 13876 | 13336 | 5495 |
| Continue Prototype Integration Systems 3 through 7 | 6144 | 2571 | 0 |
| ABCS Support SE&I | 195 | 200 | 0 |
| Software Integration/Development | 2618 | 0 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue AWQ, Development and Operational Test | 9097 | 4689 | 2500 |
| Continue Support of Systems 1 and 2 | 2310 | 1449 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 665 | 0 |
| Totals | 34240 | 22910 | 7995 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Airborne Command and Control SSN AA0710 | 11284 | 28928 | 26603 | 28055 | 3901 | 4284 | 3960 | Continuing | Continuing |

**C. Acquisition Strategy:** A competitive cost type contract was awarded in August 2001 to Raytheon. Raytheon produced two (2) prototype systems in FY03. The existing contract has options for LRIP and FRP. Milestone C is planned for March 04.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 4152 | 1Q | 5325 | 1Q | 5495 | 1Q | Continue | 14972 | 0 |
| b . Prototype Integration (Systems 3 - 7) | CPIF | Raytheon | 0 | 6626 | 1Q | 2871 | 1Q | 0 | | Continue | 9497 | 0 |
| c . Software Integration/Development | CPIF | Raytheon Huntsville | 0 | 2618 | 1Q | 0 | 1Q | 0 | 1Q | Continue | 2618 | 0 |
| d . Systems and Engineering Logistics Support | Various | Raytheon /AMCOM | 0 | 6037 | | 6562 | | 0 | | Continue | 12599 | 0 |
| e . ABCS SE&I | MIPR | Ft. Monmouth, NJ | 0 | 195 | | 0 | | 0 | | 0 | 195 | 0 |
| f . Inhouse/Government | Various | Various | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 19628 | | 14758 | | 5495 | | Continue | 39881 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2310 | 1Q | 1449 | 1Q | 0 | 1Q | 0 | 3759 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 2310 | | 1449 | | 0 | | 0 | 3759 | 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 | 7862 | 1Q | 4041 | 1Q | 0 | 1Q | Continue | 11903 | 0 |
| b . Operational Test | Various | Various | 0 | 1235 | | 648 | 3Q | 2259 | 1Q | Continue | 4142 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 9097 | | 4689 | | 2259 | | Continue | 16045 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . In-House/Gov't | | | 0 | 3205 | | 2014 | | 241 | | 0 | 5460 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 3205 | | 2014 | | 241 | | 0 | 5460 | 0 |
| Project Total Cost: | | | 0 | 34240 | | 22910 | | 7995 | | Continue | 65145 | 0 |

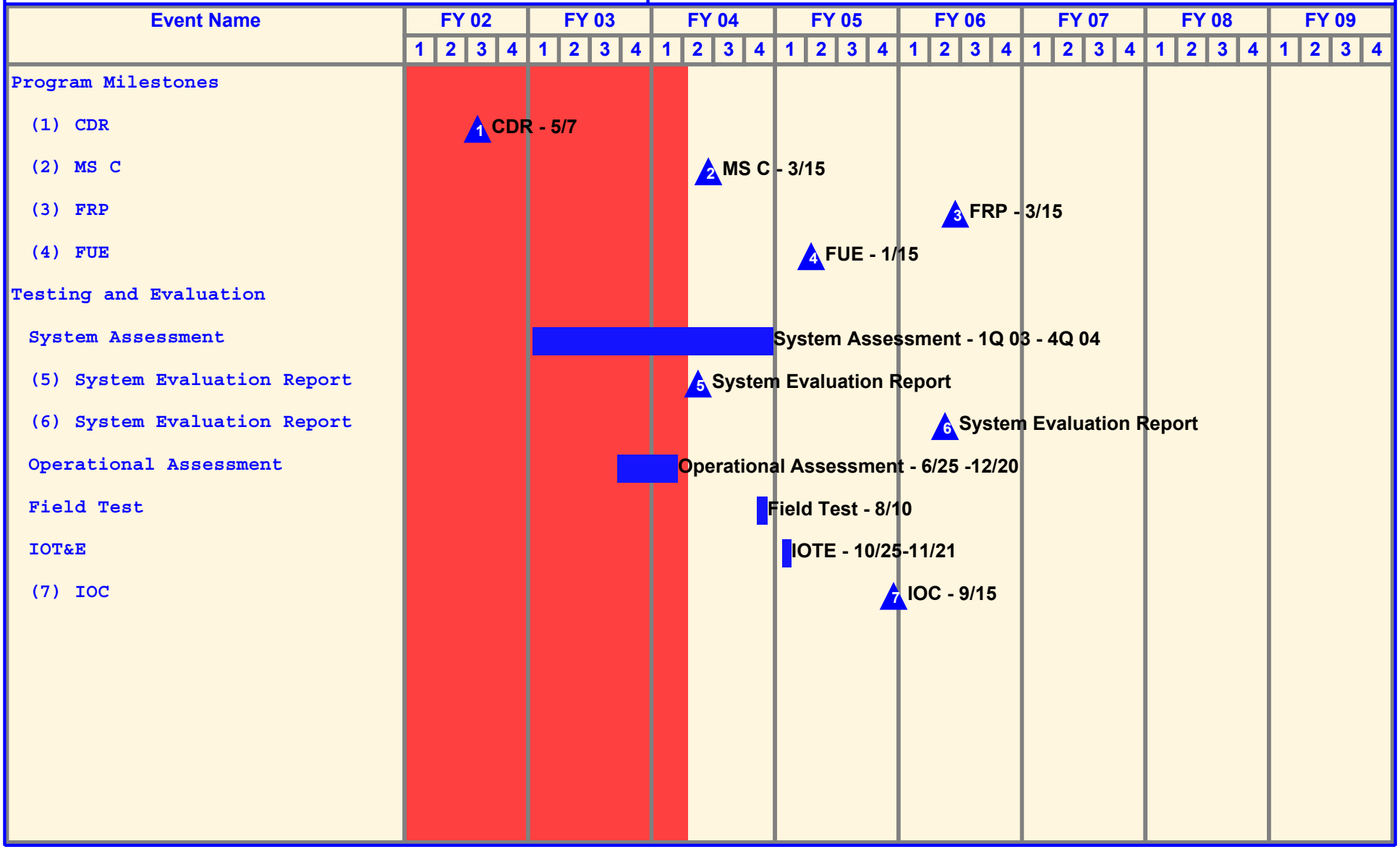
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604818A - Army Tactical Command & Control Hardware & Softwar**

PROJECT
**C3A**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604818A - Army Tactical Command & Control Hardware & Softwar** | **C3A** |

| Schedule Detail | 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 | | |
| Continue/Complete A2C2S Prototype Fabrication and Platform Integration Systems | 1-4Q | 1-4Q | | | 1-4Q | | |
| Continue System Engineering, Software Integration and Logistics Planning for A2C2S | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Continue Development Testing | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Operational Testing | 3-4Q | 1-4Q | 1Q | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604819A - LOSAT** | **046** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 10603 | 30488 | 22628 | 0 | 0 | 0 | 0 | 0 | 113856 |

**A. Mission Description and Budget Item Justification:** The LOSAT weapon system consists of a kinetic energy (KE) missile launcher mounted on a heavy High Mobility Multi-purpose Wheeled Vehicle (HMMWV) chassis.Line-of-Sight Anti-Tank (LOSAT) and the Kinetic Energy Missile (KEM) technology provides light forces needed lethality and the foundation for the Future Force Kinetic Energy Missile integration. 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. 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 casualities and provides 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 and can be dropped or sling loaded under CH-47 and UH-60L aircraft. The performance of this hypervelocity kinetic energy missile (velocity of a mile per second) is not affected by the proliferation of emerging threat active protective systems and enhanced reactive armors, which are both rapidly becoming available on the global marketplace. LOSAT was initiated as a DoD-approved Advanced Concept Technology Demonstration (ACTD) program in FY 1998 to position the technology for future acquisition decisions; demonstrate subsystem capabilities in flight tests and dirty battlefield environments; evaluate the utility of the LOSAT technology for the early entry forces; demonstrate an integrated HMMWV-based LOSAT system in-flight tests and advanced war fighting experiments; and evaluate affordability issues. The work in this program element is consistent with the Army Science and Technology Master Plan, and the Army Modernization Plan. In December 1999, the Army and OSD funded the LOSAT accelerated advanced development and procurement as part of the Army Transformation by adding additional design activities, reducing risk, completing system qualification testing, and adding additional Operational tests to support transition to limited production of the LOSAT Weapon System, with entry into Low Rate Initial Production (LRIP) starting in FY 2004. This system supports the Current to Future Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY03 Finalize Fire Unit Software Enhancements, Fire Unit BIT/BITE software, and perform System Level Certification. | 742 | 0 | 0 |
| FY03 Fabrication of Missiles with Enhanced Design and perform developmental/operational, tests and evaluations. | 1135 | 0 | 0 |
| FY03-04 Fabrication of Enhanced Design Prototype Fire Units/Live Fire Unit, and refurbishment of Fire Units. | 1474 | 7240 | 0 |
| FY03-05 Perform full, Developmental/Operational Tests and Evaluations. | 3189 | 8280 | 12833 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| FY03-05 Continue Supportability Analysis, finalize Logistics Management Information, and perform Supportability Demonstration. | 1436 | 5738 | 250 |
| FY03-05 Deliver Enhanced Training Simulators and conduct Soldier Training for operational tests. | 891 | 3892 | 2920 |
| FY03-05 Perform Live Fire Test and Evaluation (LFTE). | 1736 | 4551 | 6625 |
| SMALL BUSINESS INNOVATIVE RESEARCH/SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAMS | 0 | 787 | 0 |
| Totals | 10603 | 30488 | 22628 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 13597 | 30809 | 22610 |
| Current Budget (FY 2005 PB) | 10603 | 30488 | 22628 |
| Total Adjustments | -2994 | -321 | 18 |
| Congressional program reductions | | -290 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | -2994 | -31 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 18 |

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| H09100 LOSAT | 0 | 42911 | 86321 | 70983 | 4351 | 0 | 0 | 0 | 204566 |
| 0603654A Line-of-Sight Technology Demo | 29931 | 8739 | 0 | 0 | 0 | 0 | 0 | 0 | 111200 |

**D. Acquisition Strategy:** The Line-of-Sight Anti-Tank additional development and qualification effort to support the Current to Future Forces 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(R3)

**February 2004**

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 | 0 | 2Q | 14000 | 2-3Q | 2000 | 1Q | 0 | 50157 | 0 |
| b . Live Fire Hardware | CPFF | Alliant Tech | 1629 | 0 | | 0 | | 0 | | 0 | 1629 | 0 |
| c . RDEC Support | TBD | Huntsville, AL | 5837 | 2043 | 2-4Q | 3000 | 1-4Q | 2804 | 1-4Q | 0 | 13684 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 41623 | 2043 | | 17000 | | 4804 | | 0 | 65470 | 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 | 2767 | 1-4Q | 1086 | 1-4Q | 0 | 5598 | 0 |
| b . Funct Govt Spt | | Huntsville, AL | 2768 | 896 | 2-4Q | 1030 | 1-4Q | 795 | 1-4Q | 0 | 5489 | 0 |
| c . MISC | | Various | 58 | 0 | | 0 | | 0 | | 0 | 58 | 0 |
| d . OGA | | Various | 188 | 180 | 2-4Q | 480 | 1-4Q | 229 | 1-4Q | 0 | 1077 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 4176 | 1659 | | 4277 | | 2110 | | 0 | 12222 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604819A - LOSAT**

PROJECT
**046**

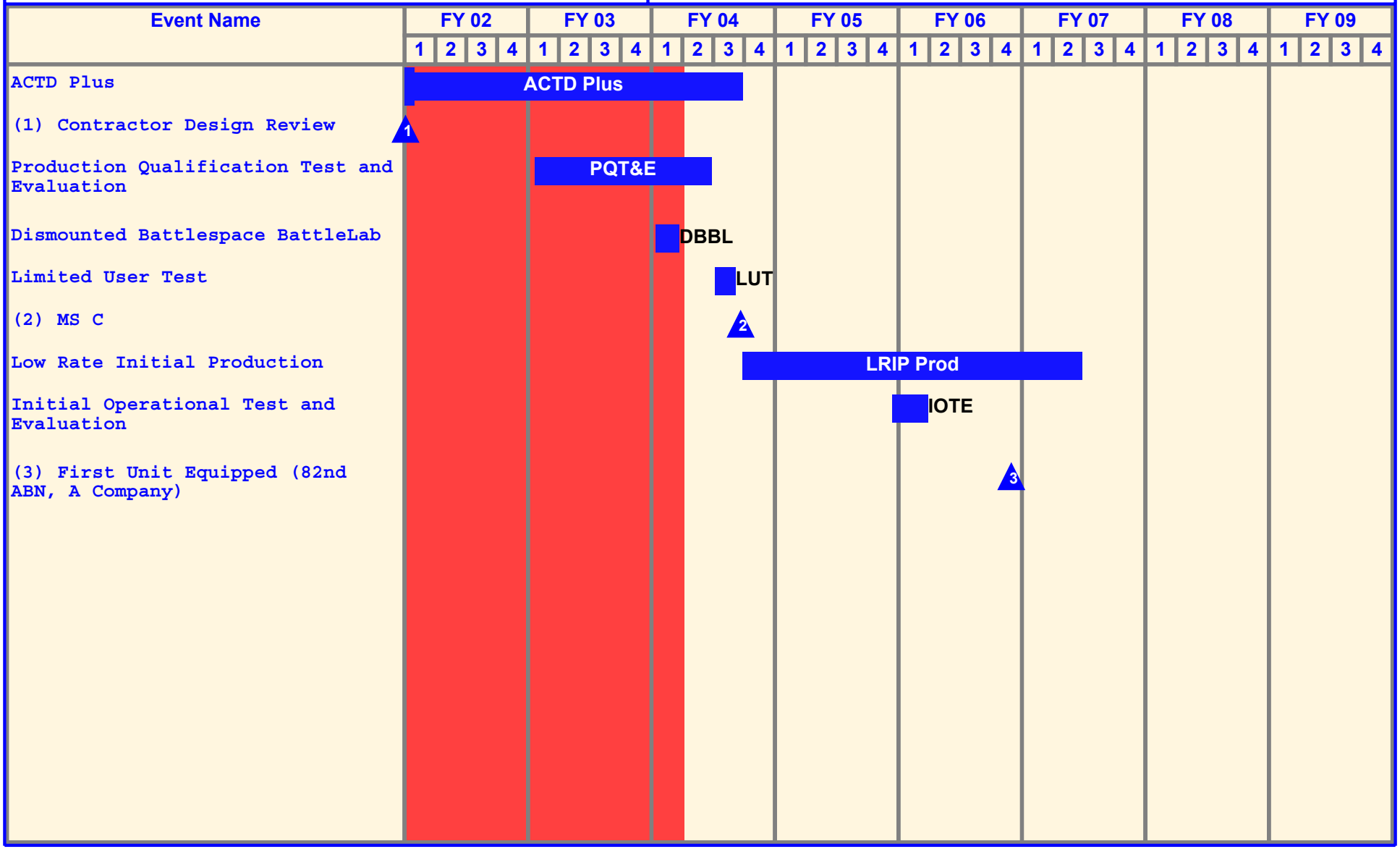
| III. Test and Evaluation | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . Range Support | | Various Sites | 788 | 3680 | 1-4Q | 2255 | 1-4Q | 10282 | 1-4Q | 0 | 17005 | 0 |
| b . Other Test | | Various Sites | 1556 | 2598 | 1-4Q | 6081 | 1-4Q | 4654 | 1-4Q | 0 | 14889 | 0 |
| c . GFE | | Smith Industries, Grand Rapid, Minnesota | 366 | 0 | | 0 | | 0 | | 0 | 366 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2710 | 6278 | | 8336 | | 14936 | | 0 | 32260 | 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 | 875 | 1-4Q | 778 | 1-4Q | 0 | 3904 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1628 | 623 | | 875 | | 778 | | 0 | 3904 | 0 |
| Project Total Cost: | | | 50137 | 10603 | | 30488 | | 22628 | | 0 | 113856 | 0 |

# Schedule Profile (R4 Exhibit)

February 2004

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| 5 - System Development and Demonstration | 0604819A - LOSAT | 046 |



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604819A - LOSAT** | **046** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Critical Design Review | | | | | | | |
| Begin Missile and Fire Unit Assembly | | | | | | | |
| Complete Component Level Qualifications | 2Q | | | | | | |
| Begin System Qualification and Flight Tests | 2Q | | | | | | |
| Begin User Experimentation | 4Q | | | | | | |
| Limited User Testing | | 3Q | | | | | |
| Complete System Qualification and Flight Tests | | 2Q | | | | | |
| Milestone C | | 3Q | | | | | |
| Award LRIP Contract | | 3Q | | | | | |
| ACTD Hand Receipt (Fire Units) | | 4Q | | | | | |
| IOTE | | | 4Q | 1Q | | | |
| Begin Fielding | | | | 4Q | | | |
| First Unit Equiped (FUE) | | | | 4Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604820A - RADAR DEVELOPMENT** | **E10** |

| COST (In Thousands) | FY 2003 Actual | 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 | 0 | 0 | 6107 | 6393 | 2503 | 2599 | 2055 | 0 | 37520 |

**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, Composite Tracking, and Interface with Joint Integrated Fire Control System Modernization effort supports the Current to Future 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.

FY05 funding initiates composit tracking and integration (sensor to sensor) to the Joint Identification Technology Development.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Completed ETRAC Prototype Design and Development | 0 | 0 | 0 |
| Completed ETRAC Target Classification Prototype Design and Development | 0 | 0 | 0 |
| Completed Integration and Test of ETRAC | 0 | 0 | 0 |
| Initiate Composite Tracking and Integration to the Joint Identification Technology Development | 0 | 0 | 6107 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 0 | 0 | 6107 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 0 | 0 |
| Current Budget (FY 2005 PB) | 0 | 0 | 6107 |
| Total Adjustments | 0 | 0 | 6107 |
| Congressional program reductions | | | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | 6107 |

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| Other Procurement, Army 2 (SSN WK 5053) | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1905 |
| Other Procurement, Army 2 (SSN WK 5057) | 39423 | 21264 | 7487 | 7218 | 15132 | 24565 | 28814 | Continue | Continue |
| Spares (SSN BS 9732) | 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 assure the 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.

Joint Identification, Composite Sensor Net, and Mode V via Composite Tracking will be integrated to interface with the Joint Integrated Fire Control System Modernization effort to allow matching of the embedded Sentinel capabilities with the Joint Integrated Fire Control System and ensures joint interoperability for emerging Homeland Defense and SLAMRAAM specific hostile target identification requirements. Composite Tracking contains both the generation of a composite track and the association of identification technologies to enable high confidence hostile engagements. Joint Identification, Composite Sensor Net, and Mode V ensure matching of current and emerging threats to system capabilities.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604820A - RADAR DEVELOPMENT**

PROJECT
**E10**

| 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 | C/FFP | Hughes Aircraft Co., Fullerton, CA | 56836 | 0 | | 0 | | 0 | | 0 | 56836 | 56836 |
| b . Technical requirement definition, corrective action & simulation | MIPR | Various AMCOM contractors/locations | 18704 | 0 | | 0 | | 0 | | 0 | 18704 | 0 |
| c . Misc requirements definition, ECM and survivability efforts. | MIPR | Various other agency contractors/locations | 5270 | 0 | | 0 | | 0 | | 0 | 5270 | 0 |
| d . Improved Transmitter Modernization Development | SS/CPAF | Raytheon Systems Company , El Segundo, CA | 8802 | 0 | | 0 | | 0 | | 0 | 8802 | 8802 |
| e . ETRAC Modernization Requirements Definition, KPP Demo and Target Classification Validation | SS/CPFF | Raytheon Systems Company , El Segundo, CA | 13117 | 0 | | 0 | | 0 | | 0 | 13117 | 13554 |
| f . Initiate Joint Identification Technology Development | TBD | TBD | 0 | 0 | | 0 | | 6107 | | Continue | 6107 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 102729 | 0 | | 0 | | 6107 | | Continue | 108836 | 79192 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604820A - RADAR DEVELOPMENT**

PROJECT
**E10**

| 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 Support Services | MIPR/1095 | AMCOM, Redstone Arsenal, AL | 14137 | 0 | | 0 | | 0 | | 0 | 14137 | 0 |
| b . Other Agency Support Services | MIPR | Various | 2793 | 0 | | 0 | | 0 | | 0 | 2793 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 16930 | 0 | | 0 | | 0 | | 0 | 16930 | 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 . IOT&E | MIPR/1095 | OPTEC, Alexandria, VA | 24180 | 0 | | 0 | | 0 | | 0 | 24180 | 0 |
| b . Other/Misc Test and Evaluation Activity | MIPR/1095 | Various | 7785 | 0 | | 0 | | 0 | | 0 | 7785 | 0 |
| c . Technical Test | MIPR/1095 | Redstone Technical Test Center, Redstone Arsenal, AL | 1213 | 0 | | 0 | | 0 | | 0 | 1213 | 0 |
| d . ETRAC KPP Demonstration | 1095 | Various | 1421 | 0 | | 0 | | 0 | | 0 | 1421 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604820A - RADAR DEVELOPMENT**

PROJECT
**E10**

| 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: | | | 34599 | 0 | | 0 | | 0 | | 0 | 34599 | 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 . Product Manager support | MIPR/1095 | PM Sentinel/AMCOM | 11033 | 0 | | 0 | | 0 | | 0 | 11033 | 0 |
| b . Contractor Support to Product Manager | FP/CPFF | Vista Tech, Huntsville, AL | 185 | 0 | | 0 | | 0 | | 0 | 185 | 0 |
| c . Contractor Support to Product Manager | CP FF | O2K Contractor Huntsville, AL | 180 | 0 | | 0 | | 0 | | 0 | 180 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 11398 | 0 | | 0 | | 0 | | 0 | 11398 | 0 |
| Project Total Cost: | | | 165656 | 0 | | 0 | | 6107 | | Continue | 171763 | 79192 |

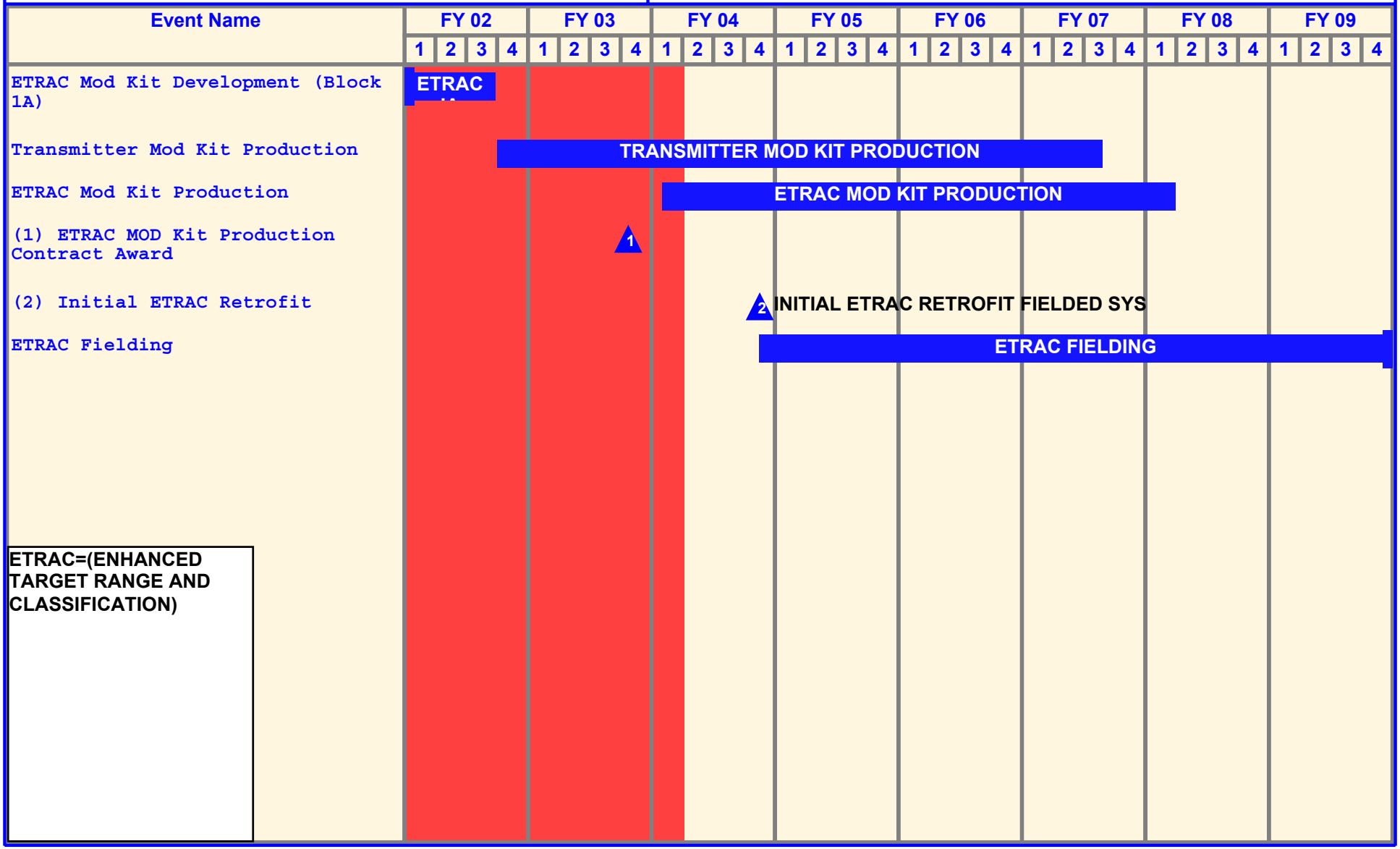
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604820A - RADAR DEVELOPMENT**

PROJECT
**E10**




ETRAC=(ENHANCED TARGET RANGE AND CLASSIFICATION)

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604820A - RADAR DEVELOPMENT** | **E10** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Mod Kit Development | | | | | | | |
| ETRAC Mod Kit Production Contract Award | | | | | | | |
| Mod Kit Production Transmitter | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-3Q | | |
| Mod Kit Production ETRAC | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1Q | |
| Initial ETRAC Retrofit | | 4Q | | | | | |
| ETRAC Fielding | | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |
| Initiate Composite Tracking and Integration to the Joint Identification Technology Development | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

ETRAC = Enhanced Target Range and Classification

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604823A - FIREFINDER** | **L85** |

| COST (In Thousands) | FY 2003 Actual | 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 | 28401 | 26825 | 18516 | 10717 | 5757 | 0 | 0 | 0 | 161557 |

**A. Mission Description and Budget Item Justification:** The AN/TPQ-47 will replace the AN/TPQ-37 Artillery Locating Radar. 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 capabilities.) 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 Stryker Force, Future Combat Systems (FCS), and Future Force's Fires and Effects network. This program is in response to a need for a longer range, more accurate and less manpower intensive radar.

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

FY05 funding allows completion of the System Development and Demonstration (SDD) phase of this program.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Develop a Radar Environmental Simulator System (RESS). Efforts include development, continual refinement during system developmental test, and maintenance. | 761 | 1315 | 500 |
| Build, integration and contractor test of System #1. Efforts include design, materials, labor, and contractor acceptance test. | 23944 | 2864 | 0 |
| Build, integration and contractor test of System #2. Efforts include design, materials, labor, and contractor acceptance test. | 2920 | 12455 | 0 |
| Prime contractor activities to support Developmental Test and Limited User Test. Efforts include contractor conduct of Live Ammunition Tests at Yuma Proving Ground (YPG) and required fixes to hardware/software. | 0 | 4774 | 11425 |
| Government Test Costs. Efforts include cost of range times at YPG, gun crews, ammunition and government manpower to support system test. | 776 | 4657 | 6291 |
| Conduct Milestone C (MS C). Efforts include preparation of program documentation necessary to support a successful MS C decision. | 0 | 0 | 300 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 760 | 0 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 28401 | 26825 | 18516 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 24913 | 27107 | 28515 |
| Current Budget (FY 2005 PB) | 28401 | 26825 | 18516 |
| Total Adjustments | 3488 | -282 | -9999 |
| Congressional program reductions | | -255 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 3488 | -27 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -9999 |

Change Summary Explanation:
FY05 funds realigned to higher priority requirements.

| **C. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| SSN: BA5100 Firefinder AN/TPQ-47 | 0 | 0 | 0 | 46701 | 82342 | 112084 | 174221 | Continue | Continue |

**D. Acquisition Strategy:** Two (2) Systems Development and Demonstration (SDD) systems were competitively awarded to Thales-Raytheon Systems (TRS). 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(R3)

**February 2004**

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 OTA | Thales-Raytheon Sys, El Segundo CA, Scotland, Forrest MI | 116809 | 25510 | 1-4Q | 19816 | 1-4Q | 10880 | 1-4Q | 0 | 173015 | 0 |
| b . Ancillary Hardware Dev | SS/T&M | Various | 4945 | 437 | 1-2Q | 1065 | 1-4Q | 1506 | 1-2Q | 14603 | 22556 | 0 |
| c . Sys Engrg (Contractor) | SS/FP | Various | 2286 | 256 | 2-3Q | 200 | 1-3Q | 300 | 1-3Q | 100 | 3142 | 0 |
| d . Sys Engrg (Government) | MIPR | CECOM, Fort Monmouth, NJ | 3196 | 440 | 1-2Q | 428 | 1-2Q | 425 | 1-2Q | 400 | 4889 | 0 |
| e . Software Engineering | C/CPAF | Telos, Lawton, OK | 1522 | 270 | 1-2Q | 565 | 1-3Q | 525 | 1-2Q | 200 | 3082 | 0 |
| f . SSEB/MS C | MIPR | Various | 227 | 0 | | 0 | | 300 | 2Q | 0 | 527 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 128985 | 26913 | | 22074 | | 13936 | | 15303 | 207211 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 233 | 1-2Q | 199 | 1-2Q | 274 | 1-2Q | 301 | 1937 | 0 |
| b . Integrated Logistics Spt (ILS) - Contractor | TBD | Various | 589 | 0 | | 0 | | 100 | 1-2Q | 0 | 689 | 0 |
| c . ILS Support-Government | MIPR | CECOM, Fort Monmouth, NJ | 425 | 0 | | 120 | 2Q | 210 | 1-2Q | 35 | 790 | 0 |
| d . Configuration Mgmt Spt-Government | MIPR | CECOM, Fort Monmouth, NJ | 600 | 119 | 1Q | 155 | 1Q | 150 | 1Q | 35 | 1059 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 2544 | 352 | | 474 | | 734 | | 371 | 4475 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 0 | | 1000 | 1Q | 0 | 1000 | 0 |
| b . Verification Testing | MIPR | Various | 202 | 190 | 1-2Q | 2533 | 1-2Q | 200 | 1Q | 0 | 3125 | 0 |
| c . Test Support | MIPR | Various | 1356 | 100 | 1-2Q | 224 | 1Q | 300 | 1-2Q | 0 | 1980 | 0 |
| d . Limited User Test | MIPR | Various | 0 | 0 | | 0 | | 531 | 3-4Q | 0 | 531 | 0 |
| e . Logistics/Training | MIPR | Various | 0 | 0 | | 0 | | 250 | 2Q | 0 | 250 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1558 | 290 | | 2757 | | 2281 | | 0 | 6886 | 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 | 245 | 1-2Q | 618 | 1-3Q | 460 | 1Q | 203 | 3159 | 0 |
| b . Program Management - Government Matrix Spt | MIPR | CECOM, Fort Monmouth, NJ | 439 | 103 | 1Q | 110 | 1-2Q | 210 | 1Q | 150 | 1012 | 0 |
| c . Program Management | In House | PM NV/RSTA, Fort Monmouth NJ | 2426 | 498 | 1-4Q | 792 | 1-4Q | 895 | 1-4Q | 447 | 5058 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**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 | 846 | | 1520 | | 1565 | | 800 | 9229 | 0 |
| Project Total Cost: | | | 137585 | 28401 | | 26825 | | 18516 | | 16474 | 227801 | 0 |

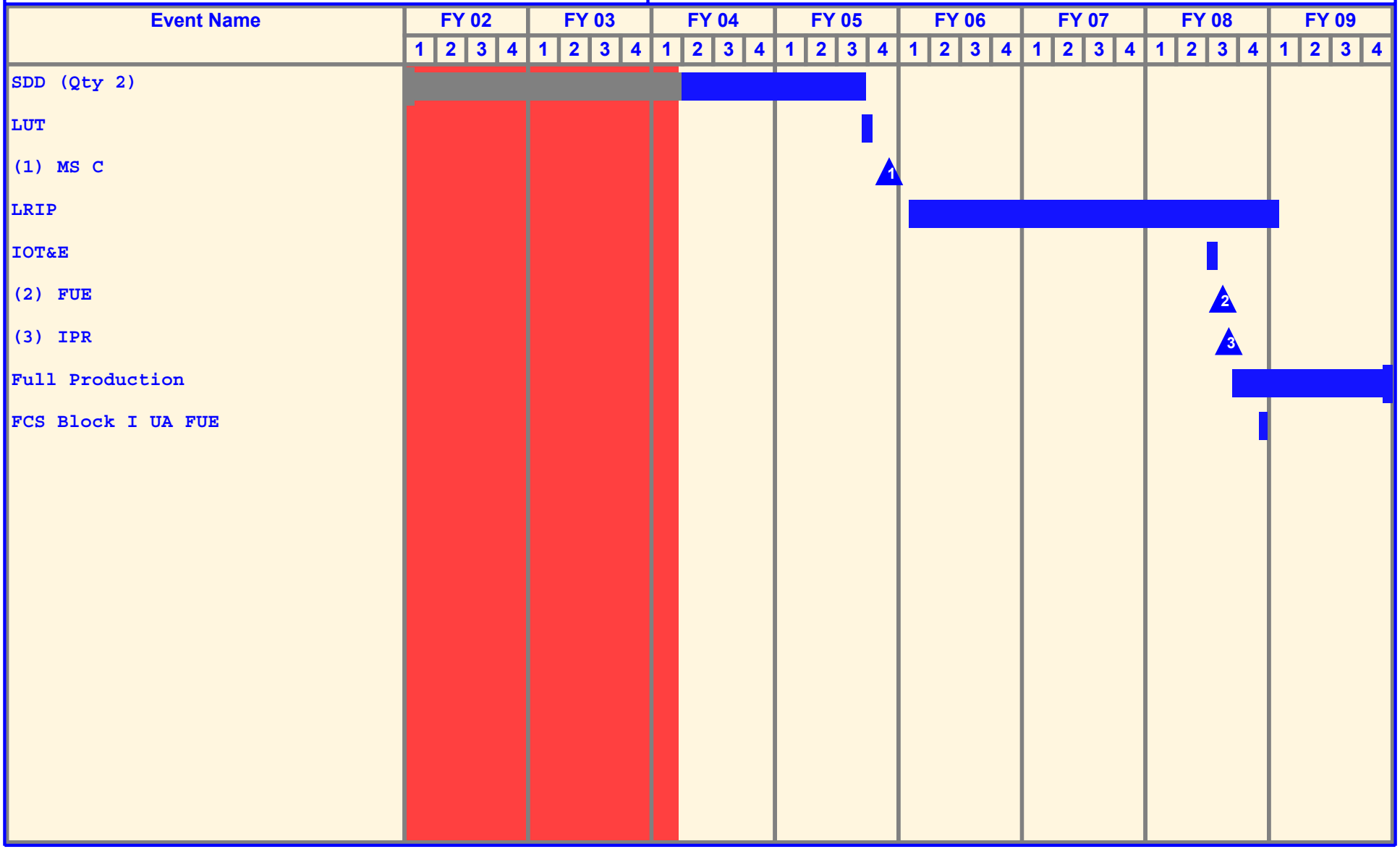
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604823A - FIREFINDER**

PROJECT
**L85**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604823A - FIREFINDER** | **L85** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| MS B for FCS | 3Q | | | | | | |
| Conduct Developmental Testing (DT) | | 1-4Q | 1-2Q | | | | |
| Conduct Limited User Test (LUT) | | | 3-4Q | | | | |
| Milestone C for LRIP | | | 4Q | | | | |
| Operation Control Selter - FCS | | | | 4Q | | | |
| Develop Training Devices | | | | 1-4Q | 1-4Q | | |
| Conduct IOT&E | | | | | | 3Q | |
| FUE | | | | | | 3Q | |
| FRP IPR | | | | | | 3Q | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

| COST (In Thousands) | FY 2003 Actual | 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 | 30483 | 32289 | 9550 | 1389 | 0 | 0 | 0 | 0 | 123505 |
| 509 LIGHTWEIGHT 155M HOWITZER | 24279 | 31744 | 8772 | 971 | 0 | 0 | 0 | 0 | 109972 |
| 516 PALADIN/FAASV | 6204 | 545 | 778 | 418 | 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 Current/Stryker Brigade Combat Team(SBCT)transition paths of the Transformation Campaign Plan (TCP).

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; the Graphical User Interface (GUI) software; the Defense Advanced GPS Receiver (DAGR); and upgrading components of the Automated Fire Control System now called Paladin Digital Fire Control System (PDFCS) to avoid obsolescence. In addition, other system improvements include the battlefield digitization trainer, the direct drive generator, and development of the Paladin Operations Center Vehicle (Pal OCV). The system improvements provide significantly improved mission effectiveness, increased reliability, maintainability, supportability, and Battle Command on-the-move, as well as reduce life cycle costs. This system supports the Current transition path of the Transformation Campaign Plan (TCP).

| B. Program Change Summary | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 26614 | 32629 | 9636 |
| Current Budget (FY 2005 PB) | 30483 | 32289 | 9550 |
| Total Adjustments | 3869 | -340 | -86 |
| Congressional program reductions | | -307 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | 3869 | -33 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -86 |

FY03 below threshold reprogramming to support Lightweight 155M Howitzer ($3.3M) and Paladin ($.6).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| COST (In Thousands) | FY 2003 Actual | 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 | 24279 | 31744 | 8772 | 971 | 0 | 0 | 0 | 0 | 109972 |

**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 M777E1. 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 M777E1 will be capable of firing the Excalibur precision munition in FY06.

This system supports both the Current and Stryker transition paths of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Funded the FY03 increment of the TAD Block I SDD contract. | 19454 | 0 | 0 |
| Funded the early stages of Technical Testing for the M777E1. | 400 | 0 | 0 |
| Funded core program management, business management, facilities, and other administrative functions. | 1115 | 0 | 0 |
| Funded matrix engineering support for IPTs and Reviews. IPTs included Digital Fire Control Development, Test, Platform Integration, Logistics, Technical Management, and Program Management. Reviews included Design Reviews at the System level and numerous Software Reviews. | 3310 | 0 | 0 |
| Funds future increments of the TAD Block I SDD contract. | 0 | 15725 | 5050 |
| Funds matrix engineering support for IPTs and software reviews. | 0 | 3250 | 2622 |
| Funds core program management, business management, facilities, and other administrative functions. | 0 | 1100 | 1100 |
| Funds remaining M777E1 technical testing, software Formal Qualification Testing, and Operational Test planning. | 0 | 7566 | 0 |
| Funds Joint M777E1 Operational Test and Evaluation. | 0 | 3200 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) | 0 | 903 | 0 |
| Totals | 24279 | 31744 | 8772 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| RDTE, Navy LW155 Towed How 060363M | 13166 | 5828 | 0 | 0 | 0 | 0 | 0 | 0 | 33488 |
| Procurement, Marine Corps LW155 Towed Howitzer with TAD Prod, BLIN 218500 | 62020 | 111489 | 175543 | 177071 | 73585 | 0 | 0 | 0 | 599708 |
| Procurement, WTCV, Army, LW155 with TAD G01700 | 0 | 7939 | 37209 | 46786 | 128285 | 191542 | 3509 | 65200 | 481561 |

**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. The M777E1 will undergo a combined Army/USMC Operational Test (OT) in 4QFY04. This OT will be jointly funded. TAD Block I test articles have been procured with Army RDTE funds. Howitzer test articles are being procured with USMC production funds.

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(R3)

**February 2004**

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 | 19454 | 1-2Q | 16628 | 1Q | 5050 | 1Q | 0 | 49582 | 49582 |
| c . Matrix Engineering Support | MIPR | ARDEC, Picatinny Arsenal, NJ | 12367 | 3310 | 1-3Q | 3250 | 1-3Q | 2622 | 1-3Q | 0 | 21549 | 0 |
| d . Preparation for TAD Block II | TBD | TBD | 0 | 0 | | 0 | | 0 | | 671 | 671 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 34953 | 22764 | | 19878 | | 7672 | | 671 | 85938 | 63718 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

PROJECT
**509**

| 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 | 1-3Q | 1100 | 1-3Q | 1100 | 1-3Q | 300 | 7473 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3858 | 1115 | | 1100 | | 1100 | | 300 | 7473 | 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 . TAD Block I SDD Test Articles (prenovation) | CPIF/AF | General Dynamics, Burlington, VT | 5395 | 0 | | 0 | | 0 | | 0 | 5395 | 5395 |
| b . M777E1 Technical Testing | MIPR | Yuma Proving Grounds, AZ | 0 | 400 | 4Q | 7566 | 1-3Q | 0 | | 0 | 7966 | 0 |
| c . M777E1 Operational Testing | MIPR | Marine Corps Operational Test and Evaluation Agency, Quantico, VA | 0 | 0 | | 3200 | 1-3Q | 0 | | 0 | 3200 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5395 | 400 | | 10766 | | 0 | | 0 | 16561 | 5395 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

PROJECT
**509**

| 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 | 24279 | | 31744 | | 8772 | | 971 | 109972 | 69113 |

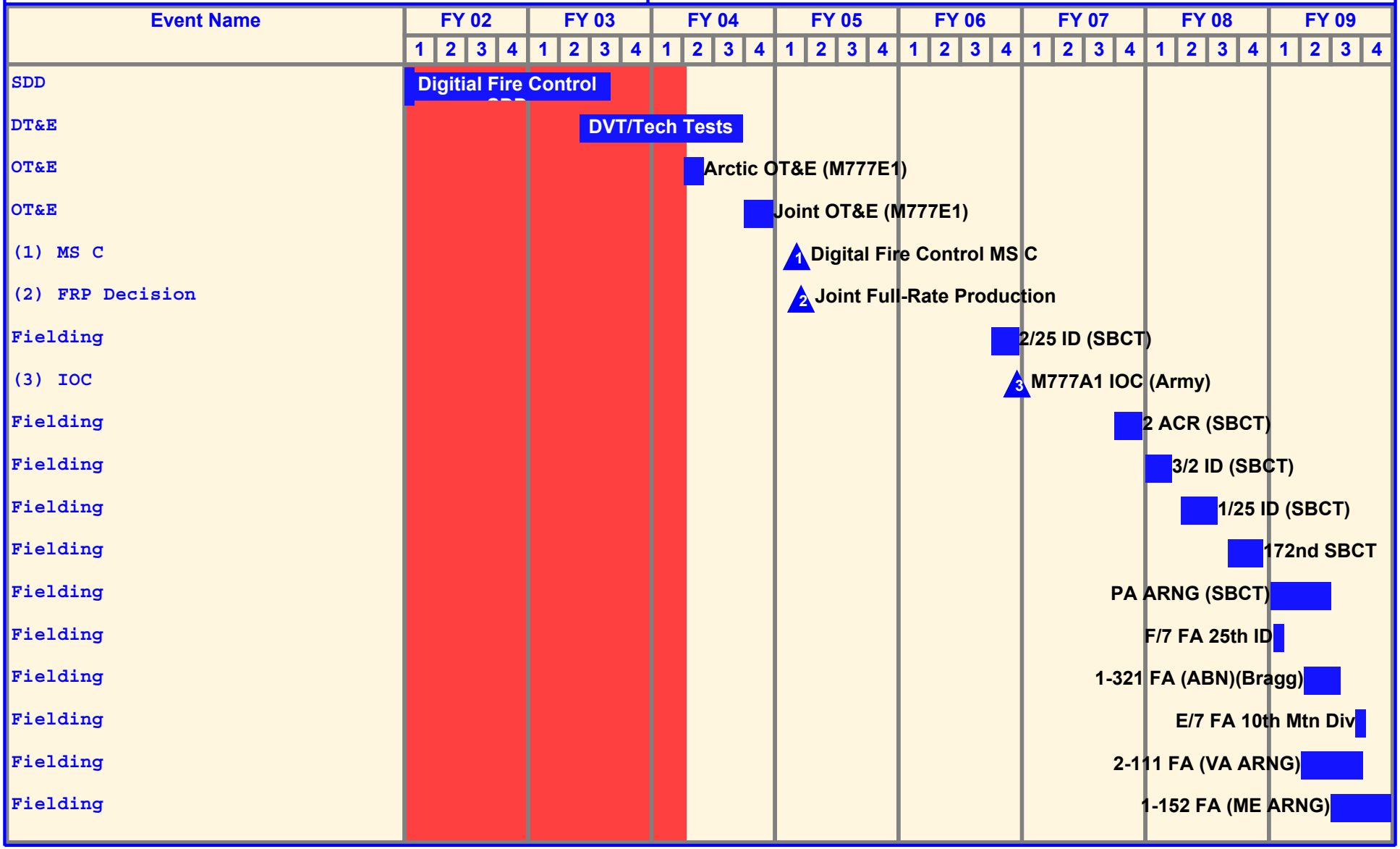
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604854A - Artillery Systems - EMD**

PROJECT
**509**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0604854A - Artillery Systems - EMD** | **509** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| System Development and Demonstration | 1-3Q | | | | | | |
| Design Verification and Test / Technical Testing | 2-4Q | 1-3Q | | | | | |
| Arctic Operational Test and Evaluation (M777E1) | | 2Q | | | | | |
| Joint Operational Test and Evaluation (M777E1) | | 4Q | | | | | |
| Milestone C | | | 1Q | | | | |
| Full Rate Production Decision | | | 1Q | | | | |
| Initial Operational Capability | | | | 4Q | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

| 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 2003 Actual | 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 | 156827 | 64178 | 21415 | 29386 | 19809 | 0 | 0 | 291615 |

**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. 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 Current to Future transition path of the Transformation Campaign Plan (TCP).

Note: The FY05 budget postures the Army to move forward with a combined PAC-3/MEADS program based on a favorable Milestone B decision 3QFY04. The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and PATRIOT systems. The combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items. This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue follow-on Block test program. | 0 | 40925 | 13991 |
| Evolutionary Development. | 0 | 15271 | 15402 |
| Missile System Enhancement (MSE) Development | 0 | 96245 | 34785 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 4386 | 0 |

| **Accomplishments/Planned Program B(continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 0 | 156827 | 64178 |

| **B. Program Change Summary** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 0 | 174475 | 78440 |
| Current Budget (FY 2005 PB) | 0 | 156827 | 64178 |
| Total Adjustments | 0 | -17648 | -14262 |
| Congressional program reductions | | -17491 | |
| Congressional rescissions | | | |
| Congressional increases | | | |
| Reprogrammings | | -157 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | | | -14262 |

In FY03, the PAC-3 program was funded by the Missile Defense Agency (MDA).
FY04 funds were decremented $16.000 million by Congress for Patriot-Meads consolidation efficiences, $1.491 million for undistribued Congressional reductions and $.157 million was realigned to higher Army priorities.
FY05 funds ($14.262 million) were realigned to a higher Army priority.

| C. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | ToCompl | TotalCost |
|---|---|---|---|---|---|---|---|---|---|
| PAC-3, SSN C49200 | 0 | 616942 | 489253 | 489705 | 490458 | 671951 | 724858 | 0 | 3483167 |
| PATRIOT MODS, SSN C50700 | 148617 | 201072 | 87948 | 77411 | 79619 | 74169 | 66299 | 0 | 759954 |
| Initial Spares, CA0267 | 39946 | 31817 | 14730 | 14813 | 9569 | 9043 | 8151 | 0 | 128791 |
| MEADS, PE 0603869A | 0 | 249444 | 264527 | 268721 | 275545 | 314089 | 300998 | 0 | 1673324 |

**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. 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. The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and PATRIOT systems. The combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items (MEI). This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 . LMMFC MSE | SS-CPIF | LMMFC-D, TX | 0 | 0 | | 64708 | 2Q | 29367 | 1Q | Continue | 94075 | 0 |
| b . Raytheon MSE | SS-FP | Raytheon, MA | 0 | 0 | | 10958 | 2Q | 5418 | 1Q | 0 | 16376 | 0 |
| c . Raytheon Evolutionary Development | SS-FP | Raytheon, MA | 0 | 0 | | 11804 | 2Q | 11918 | 1Q | Continue | 23722 | 0 |
| d . RDEC | MIPR | MRDEC, AL | 0 | 0 | | 5820 | 2Q | 2718 | 1Q | Continue | 8538 | 0 |
| e . PAC-3 Missile FOT | SS-CPFF | LMMFC-D, TX | 0 | 0 | | 20413 | 2Q | 11595 | 1Q | Continue | 32008 | 0 |
| f . PAC-3 Missile FOT | SS-FP | Raytheon, MA | 0 | 0 | | 11082 | 2Q | 2396 | 1Q | Continue | 13478 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 124785 | | 63412 | | Continue | 188197 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 2350 | 2Q | 0 | | 0 | 2350 | 0 |
| b . OGA/In-House | PO | | 0 | 0 | | 9042 | 2Q | 766 | 1Q | Continue | 9808 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 11392 | | 766 | | Continue | 12158 | 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 | | 7915 | 2Q | 0 | | 0 | 7915 | 0 |
| b . Operational Test Support | MIPR | | 0 | 0 | | 1500 | 2Q | 0 | | 0 | 1500 | 0 |
| c . Targets | MIPR | SMDC/AL | 0 | 0 | | 11235 | 2Q | 0 | | 0 | 11235 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 20650 | | 0 | | 0 | 20650 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | 156827 | | 64178 | | Continue | 221005 | 0 |

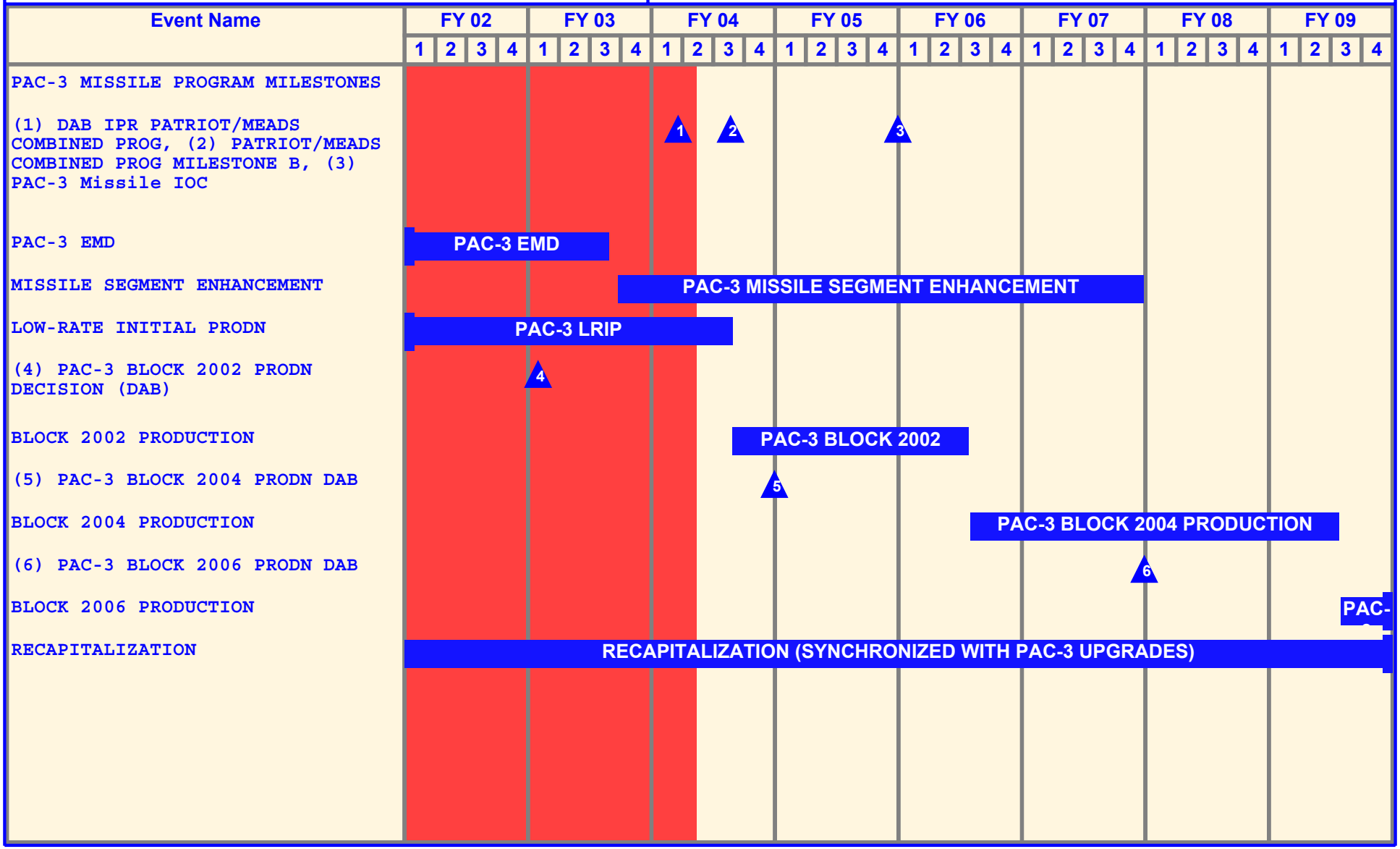
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**

PROJECT
**01C**



# Schedule Detail (R4a Exhibit)

**February 2004**

| 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 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| PAC-3 Missile Block 02 Production DAB | 1Q | | | | | | |
| PAC-3 Missile Block 04 Production DAB | | 4Q | | | | | |
| PAC-3 IOC | | | 4Q | | | | |
| PAC-3 Missile Block 06 Production DAB | | | | | 4Q | | |
| DAB IPR PAC-3/MEADS Combined Program | | 3Q | | | | | |

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

| | COST (In Thousands) | FY 2003 Actual | 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 | 70817 | 63203 | 95261 | 80335 | 83011 | 68960 | 71020 | Continuing | Continuing |
| 087 | ARMY DISTANCE LEARNING PROGRAM | 2800 | 0 | 742 | 2155 | 743 | 0 | 0 | 0 | 14732 |
| 099 | ARMY HUMAN RESOURCE SYSTEM (AHRS) | 8852 | 3757 | 5757 | 5066 | 1863 | 3540 | 3859 | Continuing | Continuing |
| 137 | TRANS COORDINATORS' AUTO INFO FOR MOVEMENT SYS II | 9745 | 15855 | 18699 | 18296 | 23060 | 19953 | 22906 | Continuing | Continuing |
| 184 | INSTALLATION SUPPORT MODULES (ISM) | 1663 | 945 | 1959 | 1015 | 1080 | 1104 | 1125 | Continuing | Continuing |
| 185 | ARMY RECRUITING INFORMATION SUPPORT SYSTEM (ARISS) | 10361 | 2238 | 0 | 0 | 0 | 0 | 0 | 0 | 33832 |
| 193 | MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE | 3534 | 9122 | 12462 | 12129 | 2999 | 2756 | 1519 | Continuing | Continuing |
| 196 | CHIEF INFORMATION OFFICE (CIO) | 1978 | 5193 | 9001 | 12226 | 12895 | 13219 | 13551 | Continuing | Continuing |
| 252 | TACMIS | 5191 | 5228 | 5313 | 6152 | 7424 | 7600 | 7854 | Continuing | Continuing |
| 299 | JOINT COMPUTER-AIDED ACQUISITION & LOG SPT (JCALS) | 23042 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113853 |
| 316 | STACOMP | 3651 | 20865 | 36439 | 18404 | 28056 | 15902 | 15323 | Continuing | Continuing |
| 474 | ENTERPRISE TRANSMISSION SYSTEMS | 0 | 0 | 4889 | 4892 | 4891 | 4886 | 4883 | Continuing | Continuing |

**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 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Previous President's Budget (FY 2004) | 69686 | 47566 | 57167 |
| Current Budget (FY 2005 PB) | 70817 | 63203 | 95261 |
| Total Adjustments | 1131 | 15637 | 38094 |
| Congressional program reductions | | -600 | |
| Congressional rescissions | | | |
| Congressional increases | | 16300 | |
| Reprogrammings | | -63 | |
| SBIR/STTR Transfer | | | |
| Adjustments to Budget Years | 1131 | | 38094 |

FY04 reflects a congressional increase for Standard Army Management Information System Tactical Computer (STACOMP) of $16.3M. FY04 also reflects adjustments for STACOMP, Army Human Resource System (AHRS), Transportation Coordinator's Automated Information for Movements System II (TC-AIMS II), Installation Support Modules (ISM), Medical Communications for Combat Casualty Care (MC4), Chief Information Office (CIO), and Tactical Management Information System (TACMIS).

FY05 increases reflect adjustments for STACOMP, AHRS, TC-AIMS II, ISM, MC4, CIO, TACMIS, the Army Distance Learning Program (TADLP), Personnel Transformation (PT), Army Recruiting Information Support System (ARISS), Tactical Logistics Data Digitation (TLDD), and Enterprise Transmission Systems (ETS).

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **087** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 087 ARMY DISTANCE LEARNING PROGRAM | 2800 | 0 | 742 | 2155 | 743 | 0 | 0 | 0 | 14732 |

**A. Mission Description and Budget Item Justification:** The Distributed Learning System (DLS), formerly The Army Distance Learning Program (TADLP), is a major automated information system that will modernize training delivery in the Army training and education system by leveraging information technology (IT). DLS is an integral component of the Department of Defense Advanced Distributed Learning Initiative, and Strategic Plan for Transforming DOD Training, which calls for the full exploitation of technologies to support quality education and training. DLS supports the E-Government strategy by using the Web to provide training materials, by enabling the intra-agency sharing of training data, and by adopting commercial practices and products to reduce operating costs. DLS supports the President's Management Agenda by making use of e-Learning to leverage scarce training funds and to provide greater agency access to training materials. DLS provides standard automation and supporting infrastructure to improve Army's ability to train service members and supporting civilian workforce in all Army components by introducing proven distance learning (DL) enhancements into the Army training inventory. DLS capability increments are: Increment 1, Installation/Unit Digital Training Facilities (DTF) fielding complete FY 05; Increment 2, Networked DLS fielding complete FY05; Increment 3, Army Learning Management System (LMS) MS C, FY04; and, Increment 4, Deployable Training Campuses' System Design, Specification and Development (SDD) FY05. The DLS supports the Current Force transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Program Management | 0 | 0 | 150 |
| Increment 3 - System Integration and development | 2300 | 0 | 0 |
| Increment 3 - Test and Evaluation | 500 | 0 | 0 |
| Increment 4 - System design, Specification, and Development | 0 | 0 | 592 |
| Totals | 2800 | 0 | 742 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **087** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OMA APEs 4326615/432612/432126 | 28624 | 33336 | 35570 | 37373 | 40552 | 43031 | 41897 | Continuing | Continuing |
| SSN BE4173 THE ARMY DISTANCE LEARNING PROGRAM | 11052 | 3299 | 5377 | 3507 | 3895 | 6037 | 8925 | Continuing | Continuing |

**C. Acquisition Strategy:** Distributed Learning System (DLS) will follow an evolutionary acquisition strategy using a spiral development process based on the following rationale: (1) cost savings can be realized immediately upon implementation of even a limited set of facilities, courseware, and media types; (2) requirements for future increments are dependent upon technology maturation. DLS will be executed using four discrete increments narrow in scope and as brief in duration as practical to deliver a measurable net benefit independent of future segments. Each increment satisfies a set of requirements identified in the Capabilities Production Document (formerly Operational Requirements Document (ORD)) and provides a militarily useful and operationally supportable function, which permits additional increments to be added over time without having to completely re-design and redevelop those portions of the system already fielded. New capabilities requirements will be integrated with the existing functional baseline system as technologies and capabilities mature using system releases where feasible. A rigid configuration management program is established to maintain the integrity of each functional and technical baseline. The approved DLS acquisition strategy identifies four increments for implementation. Two previously identified capability requirements (Video to the Desktop and Simulations) are best satisfied by changes to the existing Increment 2 (Networked DLS) platform as future system releases.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**087**

| 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 . Engineering Integration - Increment 3 | C [T&M] | IBM Corporation | 1479 | 2300 | | 0 | | 0 | | 0 | 3779 | 0 |
| b . Engineering Integration - Increment 4 | C [T&M] | TBD | 0 | 0 | | 0 | | 327 | 1Q | 0 | 327 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1479 | 2300 | | 0 | | 327 | | 0 | 4106 | 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 Support | C [IDIQ] | Titan Systems Corporation, Newport News, VA | 598 | 0 | | 0 | | 120 | 2Q | 0 | 718 | 0 |
| b . Engineering/Tech Support | MIPR | ISEC, Fort Huachuca, AZ | 470 | 0 | | 0 | | 95 | 1Q | 0 | 565 | 0 |
| c . Logistics Planning | C [IDIQ] | Titan Systems Corporation, Newport News, VA | 70 | 0 | | 0 | | 0 | | 0 | 70 | 0 |
| d . Engineering Tech Support | C/IDIQ | Titan Corp, Hampton, VA | 94 | 0 | | 0 | | 50 | 2Q | 0 | 144 | 0 |
| | | | | | | | | | | | | |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**087**

| 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: | | | 1232 | 0 | | 0 | | 265 | | 0 | 1497 | 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 . a. Testing | MIPR | ATEC, Washington, DC | 292 | 500 | | 0 | | 0 | | 0 | 792 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 292 | 500 | | 0 | | 0 | | 0 | 792 | 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 Managment Operations | N/A | PMO DLS, Newport News, VA | 707 | 0 | | 0 | | 150 | 1-4Q | 0 | 857 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 707 | 0 | | 0 | | 150 | | 0 | 857 | 0 |

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

| Project Total Cost: | | | 3710 | 2800 | | 0 | | 742 | | 0 | 7252 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

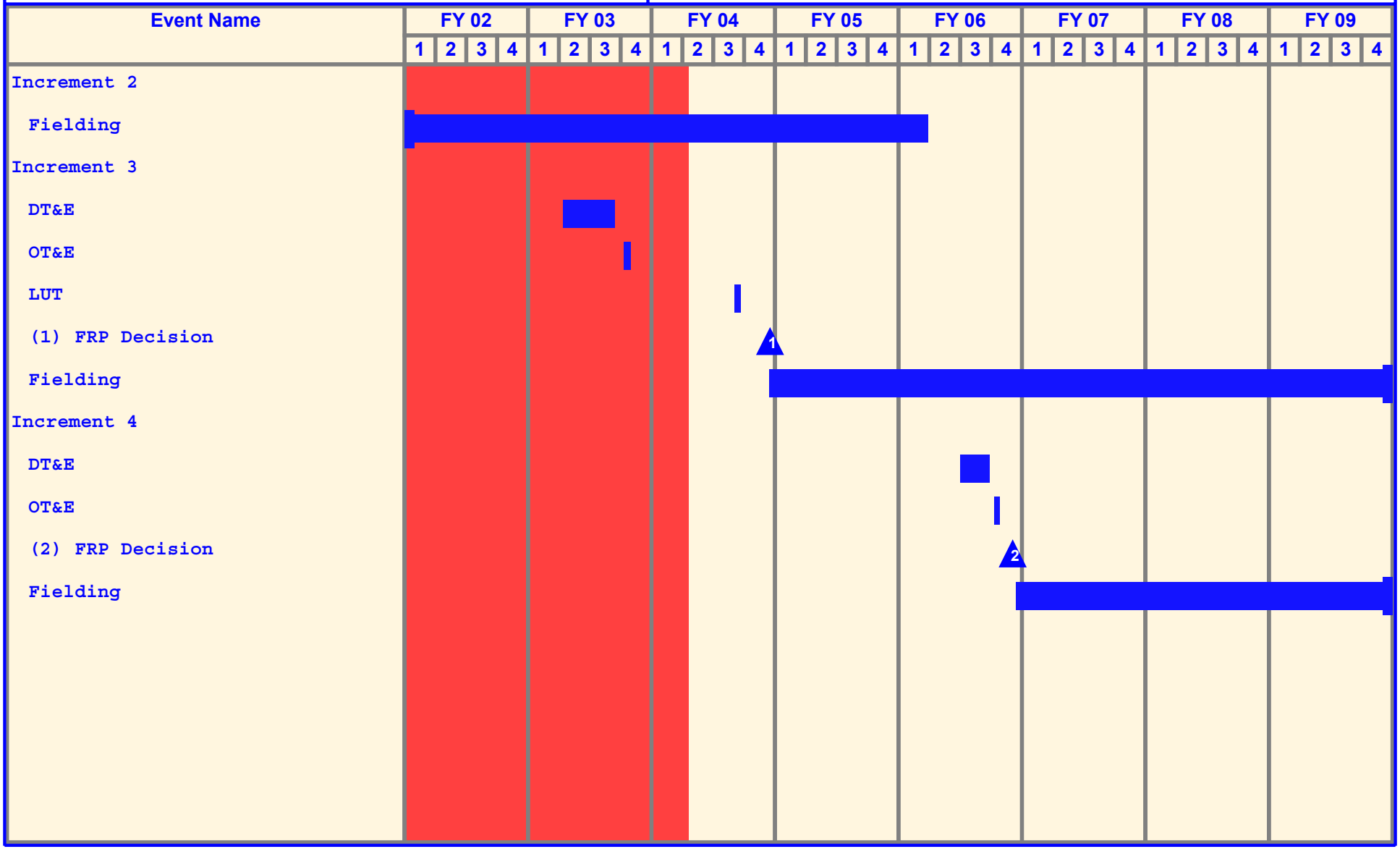
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**087**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **087** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Milestone C [DLS Increment 3, Army Learning Management system (LMS)] | | 4Q | | | | | |
| Milestone C (FRP) Increment 4, Deployable Training Campuses | | | | 4Q | | | |

FY05 supports Deployable System Design, Specification & Development of Increment 4, Deployable Training Campuses.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **099** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 8852 | 3757 | 5757 | 5066 | 1863 | 3540 | 3859 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Army Human Resource System (AHRS) is a family of personnel systems that replaces previous versions of Standard Installation Division Personnel System (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 "Stryker Force" transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Post Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) | 1071 | 949 | 1452 |
| AHRS Development | 6881 | 1849 | 3005 |
| Integrate Total Army Personnel Database (ITAPDB) Migration | 200 | 0 | 0 |
| Enterprise Datastore | 700 | 850 | 1300 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs. | 0 | 109 | 0 |
| Totals | 8852 | 3757 | 5757 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **099** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA, SSN W00800, STACOMP | 5466 | 5653 | 4086 | 4851 | 4939 | 8818 | 9199 | Continuing | Continuing |
| OMA APE: 432612/432615 | 4432 | 4294 | 3894 | 4332 | 4480 | 4649 | 4346 | Continuing | Continuing |

**C. Acquisition Strategy:** PM Army Human Resource System (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 has transferred to 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 current systems will migrate to AHRS. This migration began in FY03, and will ensure the personnel community retains functionality necessary to meet operational requirements, while addressing Transformation requirements.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1071 | 1Q | 949 | | 1452 | | Continue | 9375 | Continue |
| b . Software Development | C/FP | Electronic Data Systems, Herndon, VA | 11772 | 7781 | 1-2Q | 2808 | | 4305 | | Continue | 26666 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 17675 | 8852 | | 3757 | | 5757 | | Continue | 36041 | 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(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 0 | | 0 | 0 | 0 |
| Project Total Cost: | | | 17675 | 8852 | | 3757 | | 5757 | | Continue | 36041 | Continue |

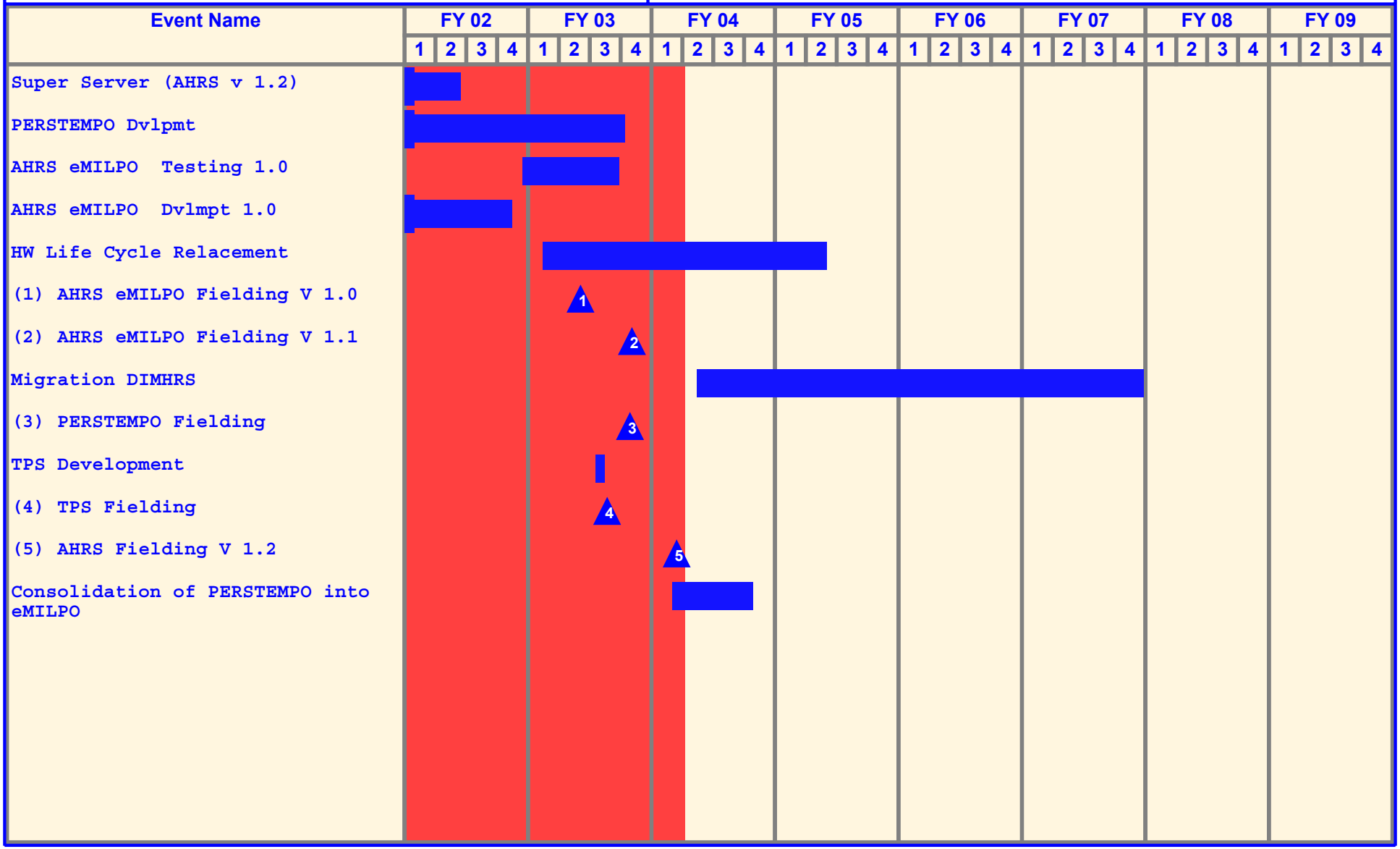
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**099**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **099** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| PERSTEMPO Development/Testing | 1-3Q | | | | | | |
| AHRS E-MILPO Testing 1.0 | 1-3Q | | | | | | |
| HW Life Cycle Replacement | 1-4Q | 1-4Q | 1-2Q | | | | |
| AHRS eMILPO Fielding | 4Q | | | | | | |
| AHRS eMILPO Enhancement/Maintenance | 3-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| Migration DIMHRS | 2-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | | |
| PERSTEMPO Fielding | 4Q | | | | | | |
| TPS Development | 3Q | | | | | | |
| TPS Fielding | 3Q | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **137** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 9745 | 15855 | 18699 | 18296 | 23060 | 19953 | 22906 | Continuing | Continuing |

**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 Future Force transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Joint Project Management Office (JPMO) Contractor Support | 4274 | 5615 | 6251 |
| JPMO Operations | 2163 | 2279 | 2311 |
| Facility Lease/Service Management | 1842 | 1897 | 1955 |
| Block 1 (Unit Move) System Development | 0 | 0 | 0 |
| Block 1 (Unit Move) System Test and Evaluation | 0 | 0 | 0 |
| Block 2 (Enhanced Unit Move (Web)) System Development | 0 | 0 | 0 |
| Block 2 (Enhanced Unit Move (Web)) System Test and Evaluation | 1466 | 580 | 0 |
| Block 3 (Movements Control & Planning; Map Graphics) System Development | 0 | 5072 | 0 |
| Block 3 (Movements Conrol & Planning; Map Graphics) System Test and Evaluation | 0 | 0 | 862 |
| Block 4 (Maritime Prepositioning Force; Theater Operations) System Development | 0 | 0 | 7320 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 412 | 0 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Totals | 9745 | 15855 | 18699 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA - SSN: BZ8900 TC AIMS II | 14208 | 17362 | 16376 | 30264 | 28297 | 26002 | 25056 | Continuing | Continuing |
| OMA - APE: 432612 | 7212 | 11424 | 13805 | 13910 | 25804 | 22247 | 20339 | Continuing | Continuing |
| OPA - SSN: BE4166 | 0 | 0 | 347 | 400 | 400 | 415 | 416 | Continuing | Continuing |

**C. Acquisition Strategy:** Transportation Coordinators' - Automated Information for Movement System II (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. Infrastructure requirements are being satisfied by the establishment of an Enterprise Architecture composed of a Central Management Facility supporting Multiple Regional Access Nodes. Additional infrastructure requirements include the acquisition and deployment of Commercial-Off-The-Shelf (COTS) hardware to provide a breakaway client-server capability which will function in isolated workgroups or in standalone modes. Funding supports the operations of a Central Management Facility with a minimum of three Regional Access nodes. Integrated into the Enterprise solution is the acquisition of COTS software, including the COTS software which is employed in the software development environment. Funding for Army hardware is included in the TC-AIMS II procurement program.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | | Computer Sciences Corporation (CSC), Springfield, VA | 17070 | 0 | | 0 | | 0 | | 0 | 17070 | 0 |
| b . Contract to be determined | T&M | | 0 | 0 | 2Q | 5462 | 2Q | 7320 | 4Q | Continue | 12782 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 17070 | 0 | | 5462 | | 7320 | | Continue | 29852 | 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 | 1842 | 1Q | 1897 | 1Q | 1955 | 1Q | Continue | 7814 | Continue |
| b . Joint Project Management Office (JPMO) Contractor Support | T&M | Various | 4921 | 4274 | 1-4Q | 5637 | 1-4Q | 6251 | 1-4Q | Continue | 21083 | Continue |
| c . JPMO Operations | In House | JPMO, Springfield, VA | 2591 | 2163 | 1-4Q | 2279 | 1-4Q | 2311 | 1-4Q | Continue | 9344 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 9632 | 8279 | | 9813 | | 10517 | | Continue | 38241 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**137**

Remarks: JPMO Operations includes direct pay of government employees, TDY, training, supplies, etc.

| 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 | 1466 | | 580 | | 862 | | 0 | 6126 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 3218 | 1466 | | 580 | | 862 | | 0 | 6126 | 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 | 9745 | | 15855 | | 18699 | | Continue | 74219 | Continue |

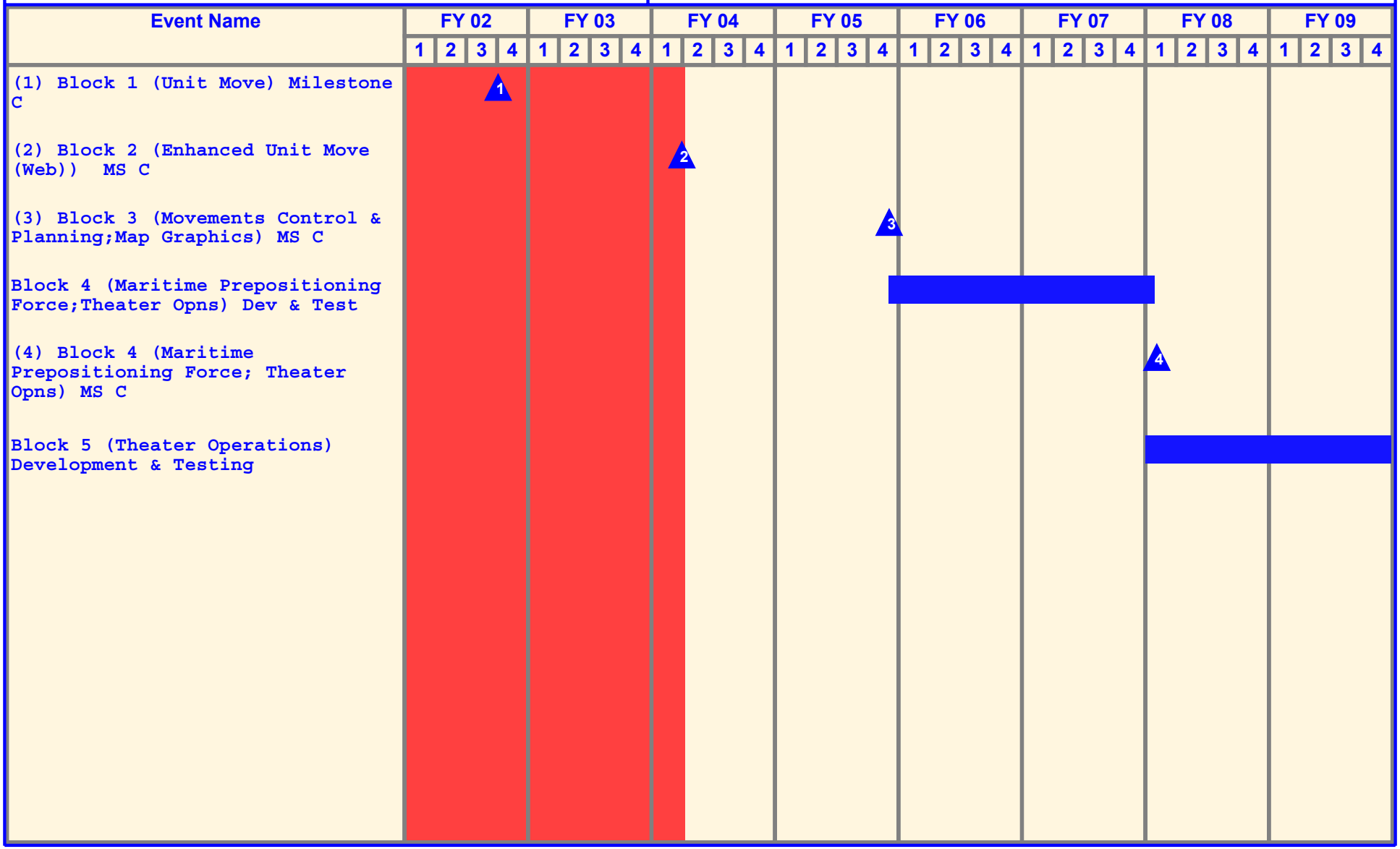
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**137**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **137** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Block 1 (Unit Move) Milestone C | | | | | | | |
| Block 2 (Enhanced Unit Move (Web)) Milestone C | | 2Q | | | | | |
| Block 3 (Movements Control & Planning; Map Graphics) Milestone C | | | 4Q | | | | |
| Block 4 (Maritime Prepositioning Force; Theater Operations) Development and Testing | | | 4Q | 1-4Q | 1-4Q | 1Q | |
| Block 4 (Maritime Prepositioning Force; Theater Operations) Milestone C | | | | | | 1Q | |
| Block 5 (Theater Operations) Development and Testing | | | | | | 1-4Q | 1-4Q |
| Block 5 (Theater Operations) Milestone C | | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **184** |

| COST (In Thousands) | FY 2003 Actual | 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) | 1663 | 945 | 1959 | 1015 | 1080 | 1104 | 1125 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** Continues the migration of the fielded Installation Support Modules (ISM) software (DOS character based) applications to a more modern graphical user interface in a web based environment. The web based applications connect to a single, centralized database, which stores data for the ISM modules. The single database is replicated to regional servers located in CONUS and eventually OCONUS. Replicating the database to the regional sites provides multiple points of access instead of a single access point; resulting in faster response time for users located at installations around the world. By employing an architecture that has a centralized, replicated database, the modernized ISM system provides installations with data that is up-to-date, accurate, and always available. The first increment of the modernized ISM software applications will be deployed the 2nd Quarter of FY 04. Follow on increments will be fielded in FY 05 and FY06. ISM provides Installation Commanders a more efficient and effective process to conduct normal day to day business operations. The ISM program consists of nine standard automated applications that support soldier readiness and deployment/redeployment processing in the areas of personnel management, training and logistics. The ISM modules are: In-Processing (INPROC), Out-Processing (OUTPROC), Personnel Locator (PERSLOC), Education Management (EDMIS), Drug and Alcohol Management (DAMIS), Transition Processing (TRANSPROC), Central Issue Facility (CIF), Range Facility Management Support System (RFMSS) and Automated Instructional Management System (AIMS-PC). The ISM system is currently deployed at sixty six Army installations to include all power projection and power support platforms. Webifying the applications will increase usage by allowing any authorized user who has a web browser access to the system regardless of location. The Joint Warrior Interoperability Demonstration (JWID) is an annual, Chairman of the Joint Chiefs of Staff event that enables U.S. Combatant Commands and the international community to conduct testing and demonstrations of command and control, communications and computer (C4) solutions that focus on selected core objectives. The JWID and its integral network provide emerging public sector and other government agency technologies the opportunity to demonstrate their utility to solving coalition interoperability problems. Each military service provides proportionate funding to the JWID Management Office in affecting this annual demonstration. The US Army funding for this annual demonstration supports the establishment of both services and networks to facilitate the global coalition network through which interoperability trials are executed.This system supports the Future Force transition path of the Transformation Campaign Plan (TCP).

There were no Defense Emergency Response Funds (DERF) provided to this project.

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **184** |

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Independent Verification and Validation (IV&V) Testing | 350 | 50 | 50 |
| Post-Deployment Software Support (PDSS) - Engineering Change Packagess (ECPs)/System Change Packages (SCPs) | 1313 | 227 | 240 |
| Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs. | 0 | 8 | 0 |
| Joint Warfighter Interoperability Demonstration (JWID) | 0 | 641 | 1669 |
| JWID Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs. | 0 | 19 | 0 |
| Totals | 1663 | 945 | 1959 |

| **B. Other Program Funding Summary** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OMA APE: 432612/432100 | 10795 | 10597 | 11290 | 12352 | 12694 | 13094 | 12152 | Continuing | Continuing |
| BE4162 MACOM AUTOMATION SYSTEMS | 285 | 926 | 770 | 772 | 770 | 784 | 802 | 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(R3)

**February 2004**

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 | Systems Research & Applications, Fairfax, VA | 7103 | 1313 | 3Q | 227 | 3Q | 240 | 3Q | Continue | 8883 | Continue |
| b . JWID Development - Army | MIPR | OSD | 0 | 0 | | 668 | 1Q | 1669 | 1Q | 0 | 2337 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7103 | 1313 | | 895 | | 1909 | | Continue | 11220 | 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(R3)

**February 2004**

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 . Independent Verification and Validation (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 | | 945 | | 1959 | | Continue | 12818 | Continue |

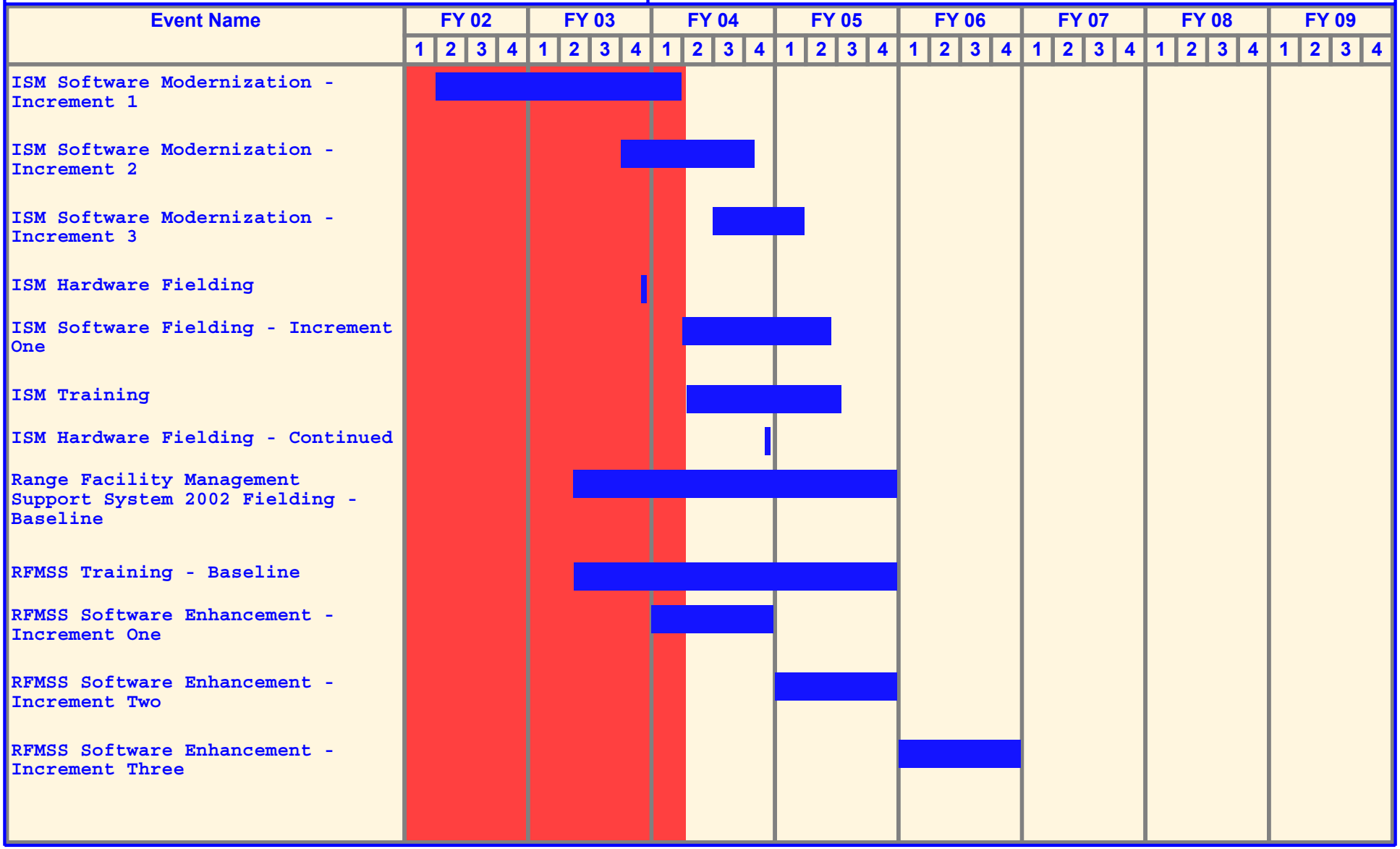
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**184**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **184** |

| **Schedule Detail** | 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 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **185** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 10361 | 2238 | 0 | 0 | 0 | 0 | 0 | 0 | 33832 |

**A. Mission Description and Budget Item Justification:** The US Army Accessions Command Integrated Automation Architecture (AAC-IAA), formerly known as the Army Recruiting Information Support System (ARISS), provides a robust integrated automation capability to enhance Army recruiting business processes. The AAC-IAA helps Army attract highly qualified, capable recruits while reducing individual recruiter workload. Army used an incremental approach to acquire/deploy the AAC-IAA capability. The AAC-IAA 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. This system supports the "Future Force" transition path of the Transformation Campaign Plan (TCP). There were no Defense Emergency Response Funds (DERF) provided to this project.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Begin development to transition LEADS and MPA to Web-Based | 1400 | 500 | 0 |
| Personnel Module, recruiting Impropriety Module, Enhancements | 408 | 0 | 0 |
| Development of Point of Sale and ERM | 100 | 0 | 0 |
| Guidance Counselor Re-Design to support Points of Sale Enhancements | 0 | 400 | 0 |
| Complete and Field Guidance Counselor Re-design | 2100 | 0 | 0 |
| RWS Web Based Enhancements to Support Point of Sale | 870 | 0 | 0 |
| Continue Data Warehouse/BI Portal/Common Portal project | 1700 | 0 | 0 |
| Integration of Enhanced Software | 1800 | 469 | 0 |
| Testing | 1200 | 0 | 0 |
| Software Engineering | 110 | 110 | 0 |
| USER Fielding Training | 650 | 490 | 0 |
| User Review | 23 | 204 | 0 |
| Small Business Innovative Research/Small Business Technology Transer Programs | 0 | 65 | 0 |
| Totals | 10361 | 2238 | 0 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| BE4164, Personnel Automation System | 15232 | 12991 | 8423 | 11146 | 9270 | 13782 | 11478 | 0 | 94033 |
| 331715 | 23184 | 28390 | 34069 | 56311 | 58548 | 57632 | 61477 | 0 | 342473 |

The funding outlined above supports the entire automation support structure of USAREC. It is not purely dedicated to the capabilities formerly titled ARISS, but supports all aspects of the infrastructure, including copiers, personnel salaries, IT maintenance, sustainment of systems, and office automation lifecycle costs.

**C. Acquisition Strategy:** US Army Accessions Command Integrated Automation Architecture (AAC-IAA), formerly known as Army Recruiting Information Support System (ARISS), Incremental Implementation: 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 FY02 the ISA finished and fielded the Personnel (PER) Module, which manages all personnel data (including contractors) 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), which re-engineers the Guidance Counselor processes to allow for simplification of functions, movement toward web-based processing, and set the foundation for "paperless processing" of enlistment documents. In FY03 the ISA completed and fielded the GC-R module. Additional performance adjustments were added to improve responsiveness and reliability. We also worked heavily on Leads improvements and improvements to the Recruiter Workstation software to support proof of concept for Point of Sale. 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. We also increased development on applicant self-processing. Over time, limited applicant self-processing or qualification will be supported over the Internet with temporary reservations for training seats. We continued development of the Business Intelligence Portal and the data warehouse and used best business practices with software integration and testing to assure most efficient development efforts.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 5178 | 1Q | 900 | 1Q | 0 | 1Q | 0 | 18474 | 0 |
| b . EDS - System Integration | Time & Material | Fort Knox, KY | 3887 | 1800 | 1Q | 469 | 1Q | 0 | 1Q | 0 | 6156 | 0 |
| c . Grumman Northrup - WEB | Time and Materials | Fort Knox, KY | 1000 | 1400 | 1Q | 0 | | 0 | | 0 | 2400 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 17283 | 8378 | | 1369 | | 0 | | 0 | 27030 | 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 | 110 | 1Q | 110 | 1Q | 0 | 1Q | 0 | 1091 | 0 |
| d . Fielding Training | MIPR and PerDiem | | 206 | 650 | | 490 | 1Q | 0 | 1-2Q | 0 | 1346 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 760 | | 600 | | 0 | | 0 | 3621 | 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 | 1200 | 1Q | 65 | 1Q | 0 | | 0 | 2549 | 0 |
| b . - User Review | TDY-Perdiem | USAREC Funtional SME | 205 | 23 | | 204 | 2-3Q | 0 | 1-2Q | 0 | 432 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1489 | 1223 | | 269 | | 0 | | 0 | 2981 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 10361 | | 2238 | | 0 | | 0 | 33832 | 0 |

# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **185** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Complete and Field PER Module, RI Module | | | | | | | |
| Complete and Field Guidance Counselor Redesign | 2Q | | | | | | |
| Complete and Field GC-R ERM | 2Q | | | | | | |
| Move Client Server Recruiiting Systems /Develop Web Based New Recruiting Systems IAW AKM Goals | | 4Q | | | | | |
| Common Portal Development for the Recruiting community of Interest in the Public Space | | 4Q | | | | | |
| Develop/Complete Point of Sale | | 4Q | | | | | |
| Develop Applicant Self Processing | | | | | | | |
| Develop Point of Sale ERM | | | | | | | |
| Develop Single Tier Architecture | | | | | | | |
| Complete Paperless Applicant Processing | | | | | | | |
| Complete Mobile Web based Recruiting | | | | | | | |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **193** |

| COST (In Thousands) | | FY 2003 Actual | 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 | 3534 | 9122 | 12462 | 12129 | 2999 | 2756 | 1519 | Continuing | Continuing |

**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. FY05 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 Future Force transition path of the Transformation Campaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Program Management | 1253 | 1904 | 3422 |
| Logistics Support Planning | 0 | 0 | 0 |
| Logistics Support Planning for Block I | 401 | 744 | 1256 |
| Engineering and Technical Support for Block I | 495 | 1345 | 1269 |
| Engineering and Technical Support for Block II | 0 | 174 | 1269 |
| MC4 Testing for Block I | 780 | 0 | 0 |
| MC4 Testing for Block II | 0 | 1984 | 2637 |
| MC4/TMIP Integration and Testing for Block I | 605 | 0 | 0 |
| MC4/TMIP Integration and Testing for Block II | 0 | 2748 | 2609 |
| Small Business Innovative Research/Small Business Technology Transfer Programs. | 0 | 223 | 0 |
| Totals | 3534 | 9122 | 12462 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA SSN MA8046 (MC4) | 13122 | 6553 | 4662 | 10435 | 27273 | 28855 | 22037 | Continuing | Continuing |
| OMA APE 432612 | 944 | 1407 | 2051 | 3032 | 4331 | 5041 | 4950 | Continuing | Continuing |
| OMA APE 432612000 Operation Iraqi Freedom | 14687 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14687 |

**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(R3)

**February 2004**

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 | CACI Inc-Federal, Arlington, VA | 507 | 640 | 1Q | 828 | 1Q | 1497 | 1Q | Continue | 3472 | Continue |
| b . Logistics Planning | In House | PM, Ft. Detrick, MD | 296 | 231 | 1-4Q | 452 | 1-4Q | 736 | 1-4Q | Continue | 1715 | Continue |
| c . Logistics Planning Spt | C/CPFF | CACI Inc-Federal, Arlington, VA | 919 | 170 | 1Q | 292 | 1Q | 520 | 1Q | Continue | 1901 | Continue |
| d . Engineering & Technical Spt | In House | PM, Ft. Detrick, MD | 343 | 160 | 1-4Q | 300 | 1-4Q | 533 | 1-4Q | Continue | 1336 | Continue |
| e . Engineering & Tech Spt | C/CPFF | Validity/Titan, Largo, MD | 865 | 335 | 1Q | 1231 | 1Q | 2005 | 1Q | Continue | 4436 | Continue |
| Subtotal: | | | 2930 | 1536 | | 3103 | | 5291 | | Continue | 12860 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 750 | 1Q | 1484 | 1Q | 1823 | 1Q | Continue | 5155 | Continue |
| b . PM Testing Spt | MIPR | ATEC | 1091 | 30 | 1-4Q | 500 | 1-4Q | 814 | 1-4Q | Continue | 2435 | Continue |
| c . MC4/TMIP Integration and Testing | C/CPFF | JHU Applied Physics Lab, Laurel, MD | 1067 | 605 | 1Q | 3000 | 1Q | 2500 | 1Q | Continue | 7172 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3256 | 1385 | | 4984 | | 5137 | | Continue | 14762 | 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 Detrick, MD | 1394 | 613 | 1-4Q | 1035 | 1-4Q | 2034 | 1-4Q | 0 | 5076 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 1394 | 613 | | 1035 | | 2034 | | 0 | 5076 | 0 |

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

| Project Total Cost: | | | 7580 | 3534 | | 9122 | | 12462 | | Continue | 32698 | Continue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

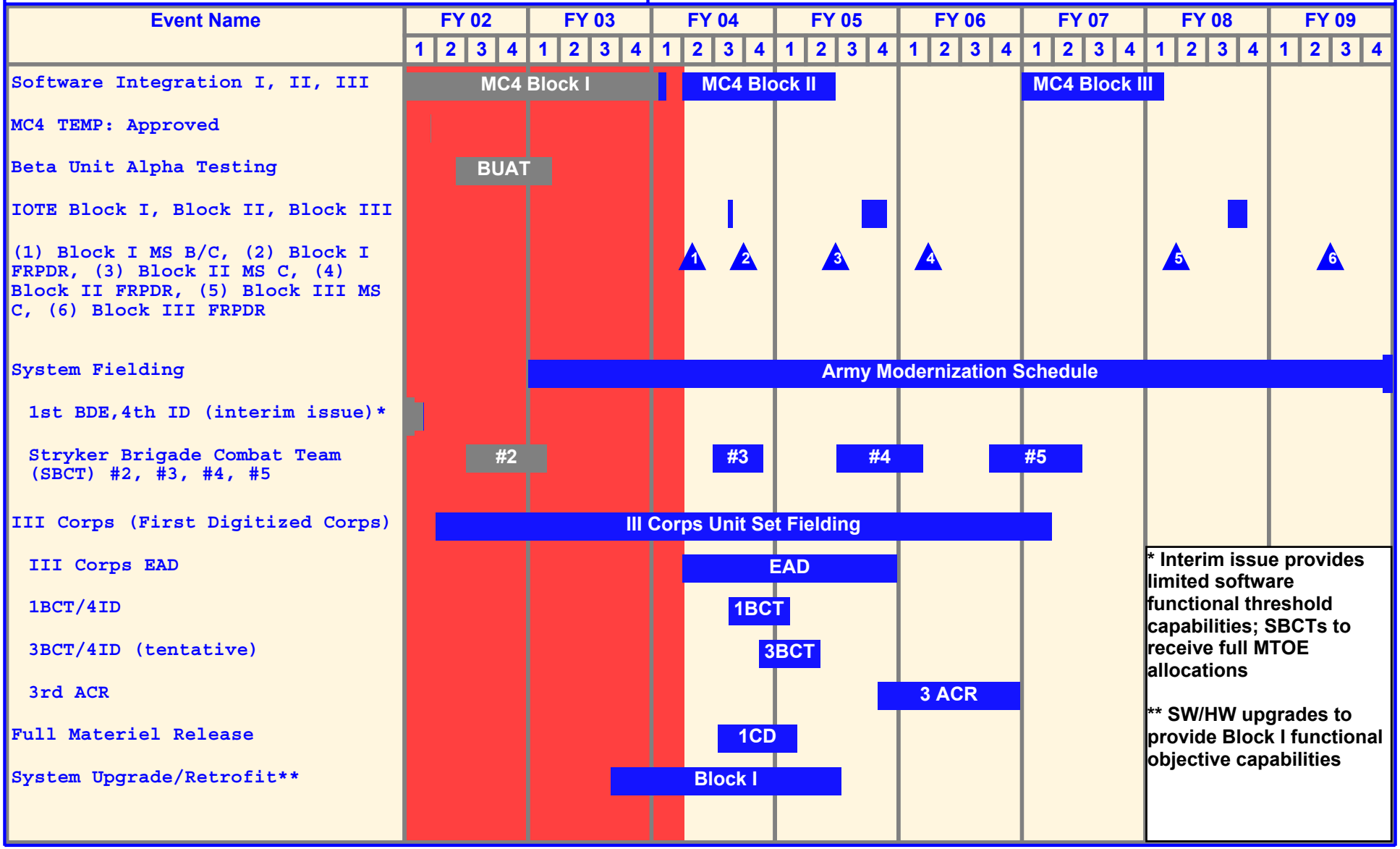
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**193**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **193** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Beta Unit Alpha Testing (BUAT) | 1Q | | | | | | |
| MC4 Block I Milestone B/MC4 Block I Milestone C | | 2-3Q | | | | | |
| MC4 Block I IOT&E | | 4Q | | | | | |
| 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 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **196** |

| COST (In Thousands) | FY 2003 Actual | 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) | 1978 | 5193 | 9001 | 12226 | 12895 | 13219 | 13551 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Chief Information Office (CIO) project establishes interoperability, standardization and integration across the 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 is 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 the Information Assurance Program Manager (IAPM) for the entire PEO with roles in Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP), Certification and Accreditation (C&A), information technology security issues, Networthiness, Connection Approval Process (CAP), and comprehensive information assurance program establishment. This system supports the "Future Force" transition path of the Transformation Campaign Plan (TCP). There were no Defense Emergency Response Funds (DERF) provided for this project.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| CIO - Continue engineering/technical support and information assurance to support PEO EIS programs. | 1282 | 3887 | 6921 |
| CIO Operations | 696 | 1155 | 2080 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 151 | 0 |
| Totals | 1978 | 5193 | 9001 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| None | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** The Chief Information Office (CIO) supports interoperability, standardization, and integration across the Program Executive Office Enterprise Information Systems (PEO EIS) by capitalizing on a common approach to software development through introduction of new technologies and methodologies.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 2792 | 1Q | Continue | 6771 | Continue |
| b . CIO Technical Support | C/FP | FC Business, Falls Church,VA | 774 | 0 | 1Q | 563 | 1Q | 571 | 1Q | 0 | 1908 | 0 |
| c . CIO Technical Support | C/TM | Titan Sys Corp, Billerica,MA | 3079 | 1171 | 1Q | 2554 | 1Q | 3558 | 1Q | Continue | 10362 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 6951 | 1282 | | 3887 | | 6921 | | Continue | 19041 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 696 | 1-4Q | 1306 | 1-4Q | 2080 | 1-4Q | Continue | 4950 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 868 | 696 | | 1306 | | 2080 | | Continue | 4950 | Continue |
| Project Total Cost: | | | 7819 | 1978 | | 5193 | | 9001 | | Continue | 23991 | Continue |

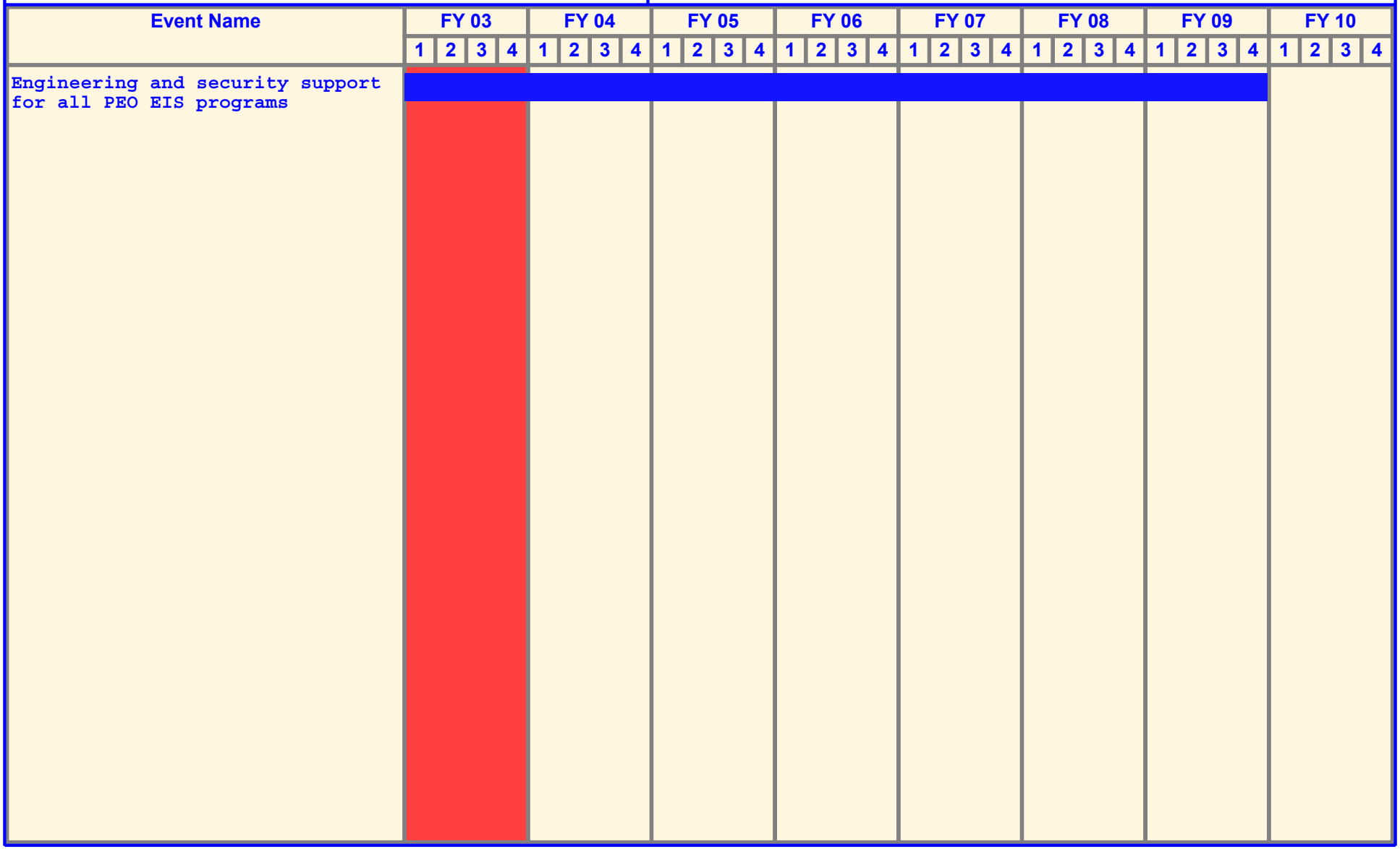
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**196**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **196** |

| **Schedule Detail** | 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 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **252** |

| COST (In Thousands) | FY 2003 Actual | 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 | 5191 | 5228 | 5313 | 6152 | 7424 | 7600 | 7854 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Tactical Management Information Systems (TACMIS) Office leverages best business practices across logistics systems and provides acquisition support to all Program Executive Office Enterprise Information Systems (PEO EIS) managed Combat Service Support (CSS) 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. This system supports the "Future Force" transition path of the Transformation Campaign Plan (TCP). There were no Defense Emergency Response Funds (DERF) provided to this project.

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue TACMIS operations. | 4429 | 3894 | 3852 |
| Continue contract and matrix support. | 762 | 1295 | 1461 |
| Small Business Innovative Research/Small Business Technology Transfer Programs | 0 | 39 | 0 |
| Totals | 5191 | 5228 | 5313 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| None | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**C. Acquisition Strategy:** This budget line funds the Tactical Management Information System (TACMIS) office operations. This includes acquisition support to all Program Executive Office Enterprise Information Systems (PEO EIS) Combat Service Support (CSS) program managers for hardware acquisition, fielding, logistics, and contractual support.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 1480 | 256 | 1Q | 670 | 1Q | 675 | 1Q | Continue | 3081 | Continue |
| b . Technical Services | T&M | BearingPoint (formerly KPMG), McLean, VA | 1705 | 457 | 1Q | 435 | 1Q | 580 | 1Q | Continue | 3177 | Continue |
| c . Engineering/Logistics/Legal Matrix Support | MIPR | Various | 707 | 49 | 1Q | 190 | 1Q | 206 | 1Q | Continue | 1152 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 3892 | 762 | | 1295 | | 1461 | | Continue | 7410 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 | 7408 | 4429 | 1-4Q | 3933 | 1-4Q | 3852 | 1-4Q | Continue | 19622 | Continue |
| | | | | | | | | | | | | |
| Subtotal: | | | 7408 | 4429 | | 3933 | | 3852 | | Continue | 19622 | Continue |
| Project Total Cost: | | | 11300 | 5191 | | 5228 | | 5313 | | Continue | 27032 | Continue |

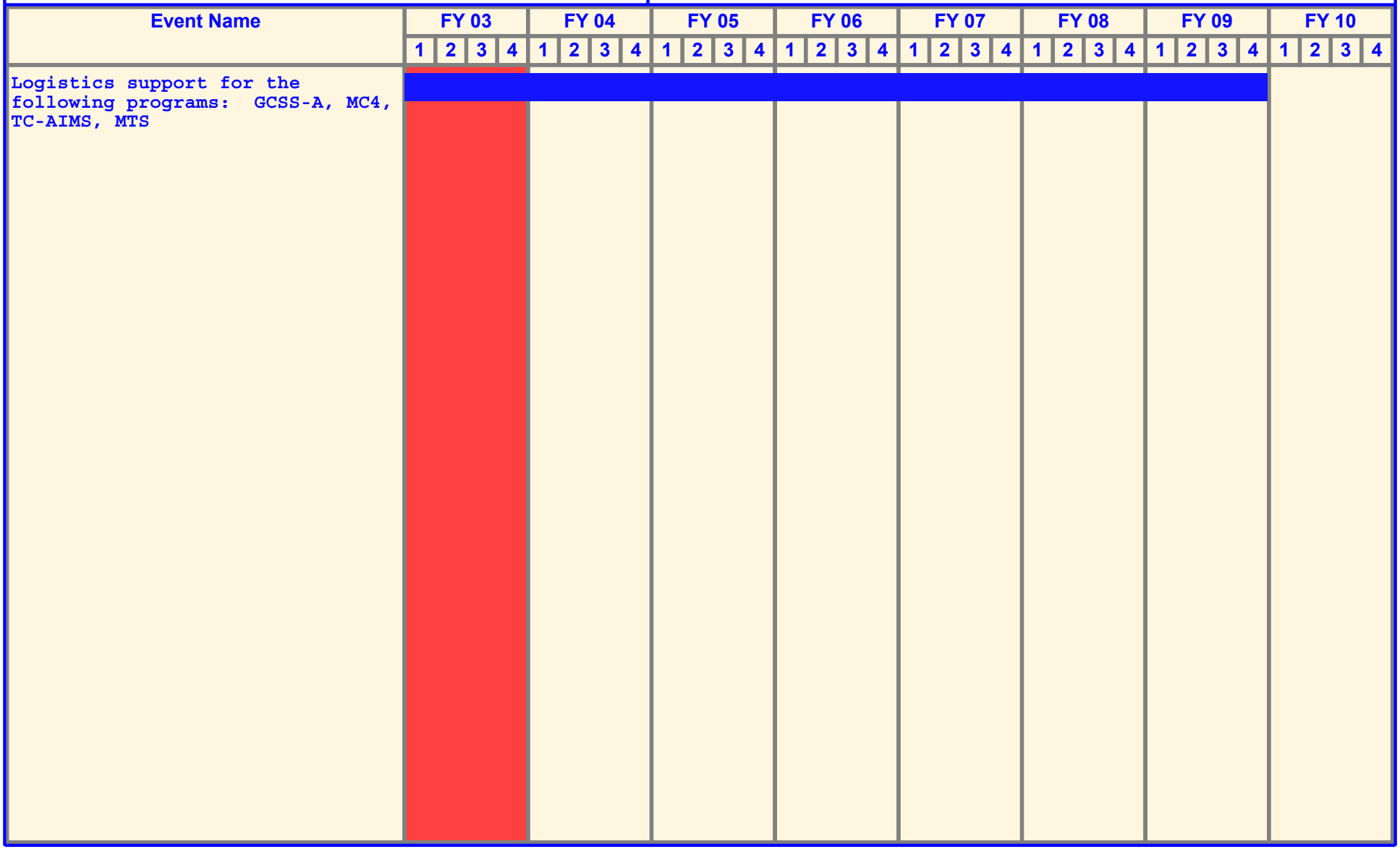
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**252**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **252** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Logistics Support | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **299** |

| COST (In Thousands) | | FY 2003 Actual | 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) | 23042 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113853 |

**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 Future transition path of the Transformation Campaign Plan (TCP).
There were no Defense Emergency Response Funds (DERF) provided to this project.

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Government Project Management | 2598 | 0 | 0 |
| Testing and Evaluation for full JTM capability | 2653 | 0 | 0 |
| Prime Contractor Project Management | 853 | 0 | 0 |
| Engineering and Technical Services, Studies, & Pilots | 16938 | 0 | 0 |
| Testing and System/Security Engineering | 0 | 0 | 0 |
| Develop Software Enhancements | 0 | 0 | 0 |
| Totals | 23042 | 0 | 0 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **299** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA JCALS SSN - WA1000 | 2468 | 0 | 0 | 0 | 0 | 0 | 0 | Continuing | Continuing |
| OMA APE - 432672 | 32496 | 26721 | 26943 | 9327 | 9298 | 9280 | 10000 | 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(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**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 | Computer Sciences Corp, 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 | 853 | 1Q | 0 | | 0 | | 0 | 10981 | 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 | 14834 | 1-4Q | 0 | | 0 | | 0 | 38726 | 0 |
| d . Engineering & Technical Services - Studies (SALE) | MIPR | PEO EIS, Ft Belvoir, VA | 0 | 1104 | 3-4Q | 0 | | 0 | | 0 | 1104 | 0 |
| e . Engineering & Technical Services - Content Data Mgmt Pilot | C/Time & Materials | Hampton University, Hampton, VA | 0 | 1000 | 4Q | 0 | | 0 | | 0 | 1000 | 0 |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**299**

| 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: | | | 45216 | 17791 | | 0 | | 0 | | 0 | 63007 | 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 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(R3)

**February 2004**

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 | 2598 | 1-4Q | 0 | | 0 | | 0 | 10186 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 7588 | 2598 | | 0 | | 0 | | 0 | 10186 | 0 |

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 90811 | 23042 | | 0 | | 0 | | 0 | 113853 | 0 |

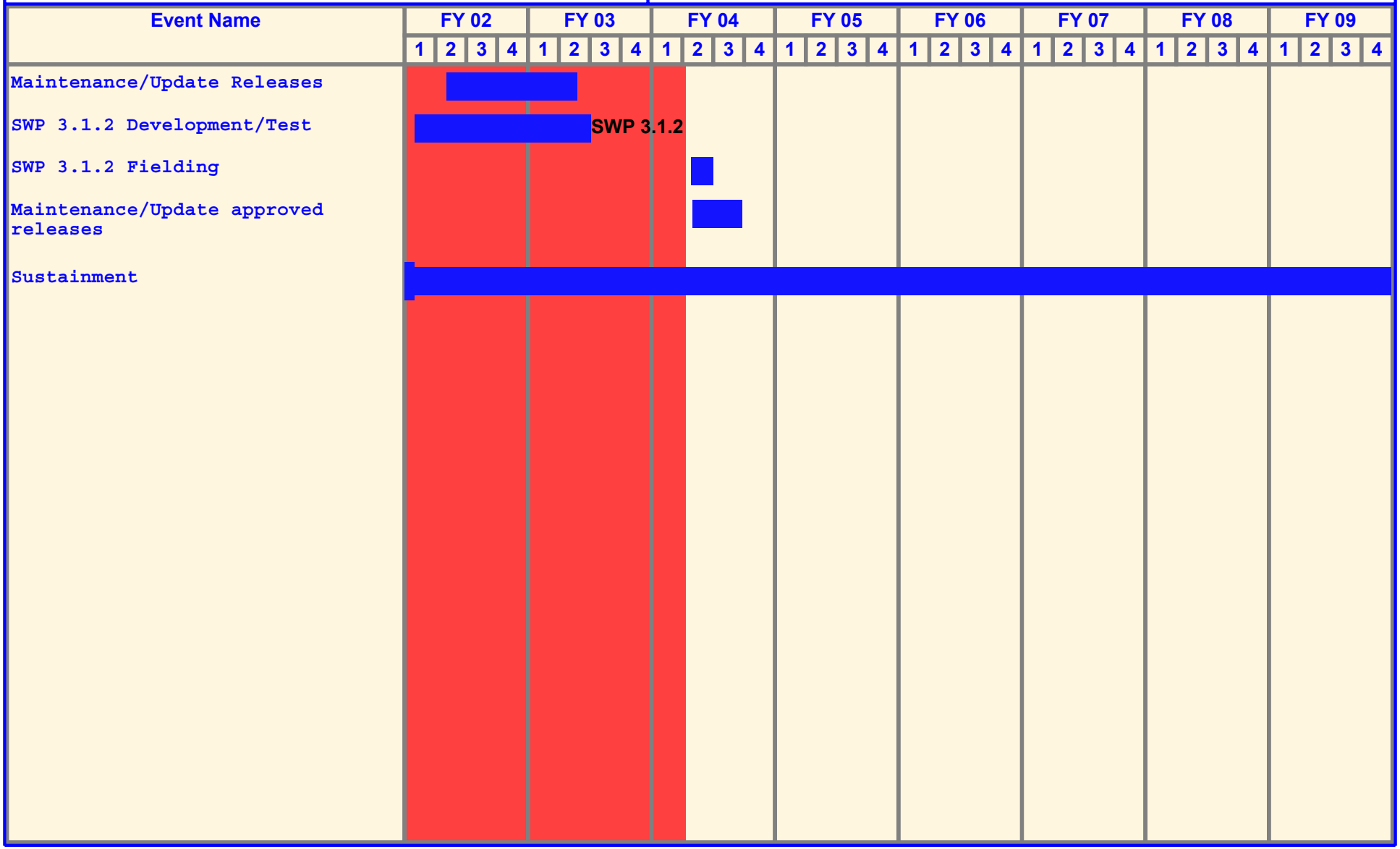
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**299**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **299** |

| **Schedule Detail** | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| JCALS Milestone III- SWP3.1 | | | | | | | |
| SWP3 .1 Fielding | | | | | | | |
| Maintenance/Update Releases | 2Q | | | | | | |
| SWP3.1.2 Fielding | | 2Q | | | | | |
| Maintenance/Update approved Releases | | 2-3Q | | | | | |
| Sustainment | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **316** |

| COST (In Thousands) | FY 2003 Actual | 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 | 3651 | 20865 | 36439 | 18404 | 28056 | 15902 | 15323 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** The Standard Army Management Information System (STAMIS) Tactical Computers (STACOMP) program provides acquisition, logistics, and integration support to numerous tactical logistics programs (i.e., Global Combat Support System (GCSS-Army), Joint Computer-Aided Acquisition and Logistics Support (JCALS), etc) through in-house matrix and contract support. This support includes managing the Program Executive Office (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 Headquarters, Department of the Army (HQDA) SS Steering Committee and other members of the Acquisition Logistics community across the Army and Department of Defense (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. This system supports the "Future Force" transition path of the Transformation Campaign Plan (TCP). There were no Defense Emergency Response Funds (DERF) provided to this project.

The Tactical Logistics Data Digitization (TLDD) program will provide Army equipment operators with rapid digital access to technical data on the battlefield, at the motor pool, and at the school house; reduce operator ordering errors; allow the right materiel to be delivered at the right place and the right time; and to provide an Integrated Parts Selection (IPS) (“point and click”) capability to the operators and maintainers. TLDD software includes the Electronic Technical Manual Interface (ETM-I), Digital Log Book (DLB) and Digital Preventive Maintenance Checks and Services (DPMCS) applications. TLDD supports all deployable forces including the "Stryker Force".

General Fund Enterprise Business System (GFEBS) was implemented to comply with the Federal Financial Management Improvement Act (FFMIA), the Chief Financial Officers (CFO) Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistance Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). The Principal Deputy for the ASA(FM&C) has directed the implementation of GFEBS to replace the Standard Finance Systems (STANFINS), Standard Operations and Maintenance, Army R&D System (SOMARDS), Defense Joint Accounting System (DJAS), and DataBase Commitment Accounting System (DbCAS/WebCas). GFEBS will provide six core financial functions: general ledger management, payment management, receivable management, funds management, cost management, and reporting. This system supports the “Future Force” transition path of the Transformation Campaign Plan (TCP).

| **Accomplishments/Planned Program** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Project Office Operations | 230 | 352 | 278 |
| Continue providing sustained support in the areas of Integrated Logistics Support maintenance, configuration management, and test and evaluation. | 538 | 576 | 536 |

| **Accomplishments/Planned Program (continued)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Continue engineering and acquiring commercial-off-the-shelf hardware and software to meet the requirements for standard combat service support (CSS) automation information systems using all available Army, DoD and General Services Administration (GSA) contract preferred purchase vehicles to best meet the customer requiremments. | 2883 | 3495 | 2127 |
| Tactical Logistics Data Digitization (TLDD) - Developed Software. Applies the systematic use of technical knowledge and programming skills to meet specific TLDD performance and functional requirements through developmental software. | 0 | 6236 | 2828 |
| TLDD - Government Project Management. The business and administrative planning, organizing, directing, coordinating, controlling and approval actions designated to accomplish the overall TLDD program objectives during the development phase. | 0 | 1500 | 1347 |
| TLDD - Contractor Support. System Engineering Technical Analysis contractors augment the TLDD program by supporting the accomplishment of technical, functional, and programmatic analyses and documentation. | 0 | 3000 | 817 |
| General Fund Enterprise Business System (GFEBS)- Project Management Operations | 0 | 0 | 3611 |
| General Fund Enterprise Business System (GFEBS)- System Engineering and Technical support | 0 | 0 | 11433 |
| General Fund Enterprise Business System (GFEBS)- Blueprinting | 0 | 0 | 11867 |
| General Fund Enterprise Business System (GFEBS)- Testing | 0 | 0 | 1595 |
| Knowledge System Management - consolidating diverging armament development and sustainment Knowledge Bases into an integrated data environment | 0 | 2600 | 0 |
| Small Business Innovative Research/Small Business Technology Transfer Program | 0 | 606 | 0 |
| Army Field Support Command Information Technology Initiative | 0 | 1000 | 0 |
| TLDD - Army Test and Evaluation Command | 0 | 1500 | 0 |
| Totals | 3651 | 20865 | 36439 |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA, W00800, STACOMP (STAMIS) | 2986 | 3673 | 3359 | 1998 | 2000 | 2000 | 2004 | Continuing | Continuing |
| OPA, W00800, TLDD | 0 | 0 | 5955 | 7991 | 9097 | 19044 | 19121 | Continuing | Continuing |
| OMA, 432612, TLDD | 0 | 0 | 1005 | 2243 | 3794 | 5414 | 6529 | Continuing | Continuing |

**C. Acquisition Strategy:** The Standard Army Management Information System (STAMIS) Tactical Computer (STACOMP) supports acquisition and deployment of Program Executive Office (PEO) logistics personnel systems.

The strategy to acquire the Tactical Logistics Data Digitization (TLDD) solution will be accomplished via full and open competition through the evolutionary acquisition of time-phased requirements consisting of an initial block of capability, and some number of subsequent blocks necessary to provide the full capability required. Each block will enhance capability by building on its predecessor.

GFEBS acquisition strategy will be accomplished via a performance-based acquisition procurement effort through the evolutionary acquisition of time-phased requirements consisting of an initial block of capability and subsequent blocks necessary to provide the full capabilities required. The RFQ will be sent to selected General Services Administration Federal Supply Schedule holders assessed to have the best capability to assist the Army with achieving its GFEBS objectives.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . TLDD - Developed Software | FFP | TBD | 0 | 0 | | 6236 | 2-3Q | 2828 | 1Q | Continue | 9064 | Continue |
| b . GFEBS - Blueprinting | FFP | TBD | 0 | 0 | | 0 | | 11867 | 1Q | 0 | 11867 | 0 |
| c . Knowledge System Management | FFP | TBD | 0 | 0 | | 2600 | 2-3Q | 0 | | 0 | 2600 | 0 |
| d . Army Field Support Command Information Technology Initiative | FFP | TBD | 0 | 0 | | 1000 | 3-4Q | 0 | | 0 | 1000 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 9836 | | 14695 | | Continue | 24531 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**316**

| 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 | 3932 | 2652 | 1Q | 3726 | 1Q | 1867 | 1Q | Continue | 12177 | Continue |
| b . Logistics/Contract Support | MIPR | CECOM, Fort Monmouth, NJ | 526 | 538 | 1-4Q | 576 | 1-4Q | 536 | 1-4Q | Continue | 2176 | 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 | 305 | 231 | 1-4Q | 375 | 1-4Q | 260 | 1-4Q | Continue | 1171 | Continue |
| e . TLDD - Engineering and Technical Services | FFP | Bearing Point (formerly KPMG), Ft. Monmouth, NJ | 0 | 0 | | 1500 | 2Q | 655 | 1Q | Continue | 2155 | Continue |
| f . TLDD - Engineering and Technical Services | T&M | Pacific Northwest National Lab (PNNG), Ft. Lewis, WA | 0 | 0 | | 1500 | 2Q | 162 | 1Q | Continue | 1662 | Continue |
| g . GFEBS - Engineering and Technical Services | FFP | TBD | 0 | 0 | | 0 | | 11433 | 1Q | 0 | 11433 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 5563 | 3421 | | 7677 | | 14913 | | Continue | 31574 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a . GFEBS - Testing and Evaluation | FFP | TBD | 0 | 0 | | 0 | | 1595 | 2Q | 0 | 1595 | 0 |
| b . TLDD - Testing and Evaluation | MIPR | ATEC, Ft Hood, TX | 0 | 0 | | 1500 | 3Q | 0 | | 0 | 1500 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 1500 | | 1595 | | 0 | 3095 | 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 | 230 | 1-4Q | 352 | 1-4Q | 278 | 1-4Q | Continue | 1415 | Continue |
| b . TLDD - Project Office Operations | In House | PM, Ft. Monmouth, NJ | 0 | 0 | | 1500 | 1-4Q | 1347 | 1-4Q | Continue | 2847 | Continue |
| c . GFEBS - Project Office Operations | In House | PM, Ft. Belvoir, VA | 0 | 0 | | 0 | | 3611 | 1-4Q | 0 | 3611 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 555 | 230 | | 1852 | | 5236 | | Continue | 7873 | Continue |

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **316** |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 6118 | 3651 | | 20865 | | 36439 | | Continue | 67073 | Continue |

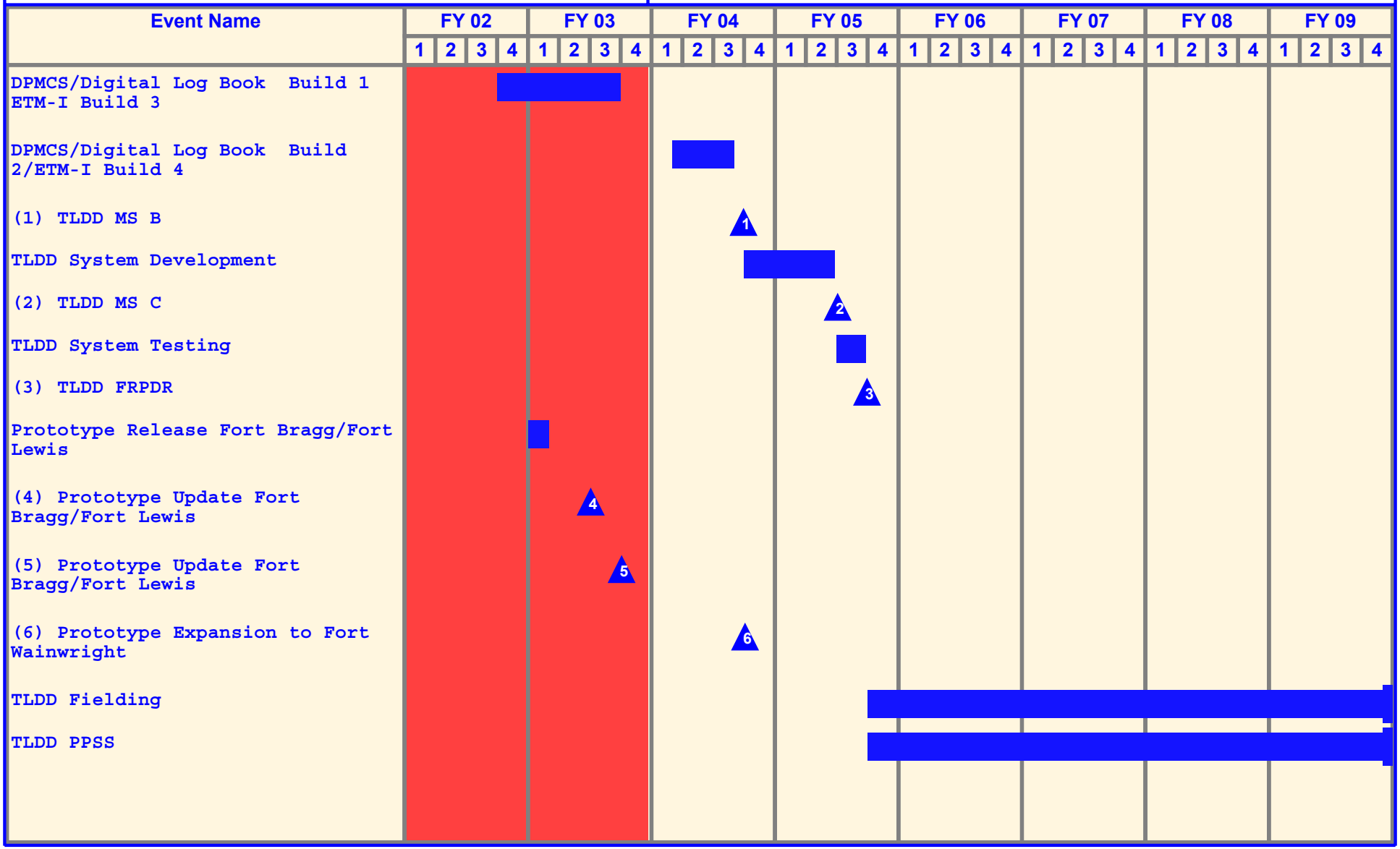
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**316**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **316** |

| **Schedule Detail** | 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 |
| TLDD - Acquisition Support | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **474** |

| COST (In Thousands) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| 474 ENTERPRISE TRANSMISSION SYSTEMS | 0 | 0 | 4889 | 4892 | 4891 | 4886 | 4883 | Continuing | Continuing |

**A. Mission Description and Budget Item Justification:** This project will test satellite links and associated equipment in actual fielded units using the results of the ongoing Combat Service Support (CSS) Satellite Communications (SATCOM) Proof of Concept Research, Development, Test & Evaluation (RDTE) effort to ensure reliability and supportability in real world conditions. We will also assess state-of-the-art commercial off-the-shelf (COTS) equipment for future Computer Service Support Automation Information Systems Interface (CAISI) upgrades. CAISI primarily supports the "Stryker" Brigade Combat Team (SBCT); but also will support the "Future Force" and "Current to Future" transition path of the Transformation Campaign Plan (TCP).

| Accomplishments/Planned Program | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| Test satellite links and associated equipment in fielded units using the results of the ongoing CSS SATCOM Proof of Concept RDTE effort as well as assess state-of-the-art COTS equipment for future CAISI upgrades. | 0 | 0 | 4889 |
| Totals | 0 | 0 | 4889 |

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

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **474** |

| B. Other Program Funding Summary | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 | To Compl | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| OPA, BD7000 | 0 | 4662 | 12320 | 7284 | 7412 | 7527 | 7061 | 0 | 46266 |
| OMA. 423612 | 0 | 972 | 22352 | 22448 | 23530 | 25983 | 24739 | 0 | 120024 |

**C. Acquisition Strategy:** Acquisition strategy will be to obtain engineering support, satellite air time as well as various hardware and software to augment and enhance Computer Service Support Automated Information Systems Interface (CAISI) capabilities. FY05 funds will be used to obtain research reports assessing state-of-the-art equipment and, once the research is evaluated, equipment deemed the most cost-effective will be acquired for testing.

# ARMY RDT&E COST ANALYSIS(R3)

**February 2004**

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**474**

| 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: None as this will be a COTS effort. All funding will be used for test and evaluation.

| 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: None as this effort will be overseen with personnel using OPA and OMA funding.

| 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 satellite links and associated equipment | | | 0 | 0 | | 0 | | 4889 | 2Q | 0 | 4889 | 0 |
| | | | | | | | | | | | | |
| Subtotal: | | | 0 | 0 | | 0 | | 4889 | | 0 | 4889 | 0 |

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| 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 as this effort will be overseen with personnel funded with OPA and OMA dollars.
R3 Exhibit

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Total Cost: | | | 0 | 0 | | 0 | | 4889 | | 0 | 4889 | 0 |

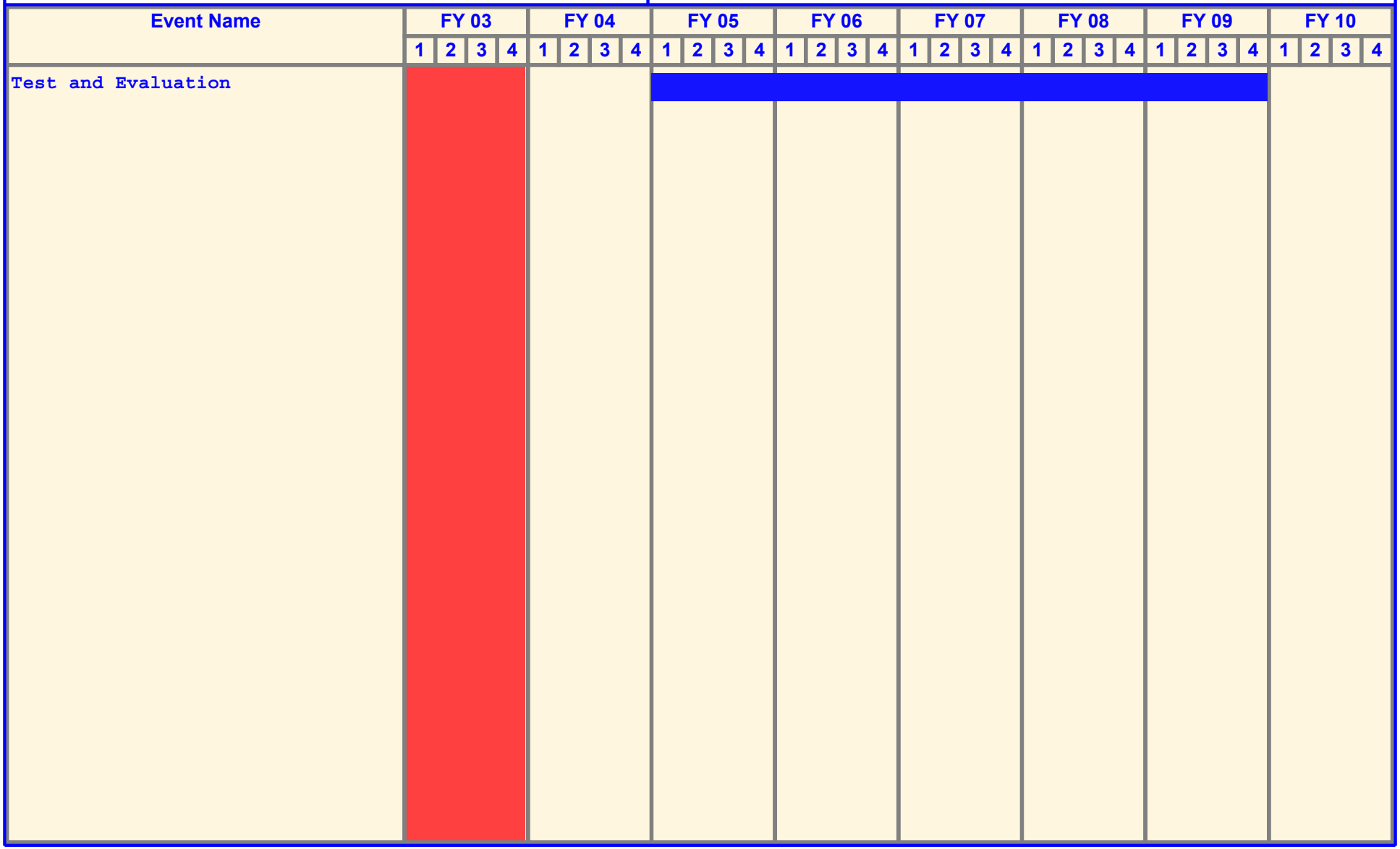
# Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
**5 - System Development and Demonstration**

PE NUMBER AND TITLE
**0605013A - Information Technology Development**

PROJECT
**474**



# Schedule Detail (R4a Exhibit)

**February 2004**

| BUDGET ACTIVITY | PE NUMBER AND TITLE | PROJECT |
|---|---|---|
| **5 - System Development and Demonstration** | **0605013A - Information Technology Development** | **474** |

| Schedule Detail | FY 2003 | FY 2004 | FY 2005 | FY 2006 | FY 2007 | FY 2008 | FY 2009 |
|---|---|---|---|---|---|---|---|
| Test and Evaluation | | | 1-4Q | 1-4Q | 1-4Q | 1-4Q | 1-4Q |