

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

February 2003

|  |                   |                     |   |                     |                     |                     |                     |                     |                              |            |
|--|-------------------|---------------------|---|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------------|------------|
| <b>BUDGET ACTIVITY</b><br><b>4 - Advanced Component Development and Prototypes</b> |                   |                     | <b>PE NUMBER AND TITLE</b><br><b>0603774A - Night Vision Systems Advanced Development</b> |                     |                     |                     |                     |                     | <b>PROJECT</b><br><b>131</b> |            |
| COST (In Thousands)  | FY 2002<br>Actual | FY 2003<br>Estimate | FY 2004<br>Estimate   | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | Cost to Complete             | Total Cost |
| 131 NIGHT VISION SYS A/DEV   | 10662             | 11170               | 5283  | 5227                | 5368                | 5352                | 3532                | 2681                | 0                            | 64106      |

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

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

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

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| BUDGET ACTIVITY   | PE NUMBER AND TITLE   |                | PROJECT        |                |
|---|---|----------------|----------------|----------------|
| <b>4 - Advanced Component Development and Prototypes</b>  | <b>0603774A - Night Vision Systems Advanced Development</b> |                | <b>131</b>     |                |
| <b><u>Accomplishments/Planned Program</u></b>   | <b>FY 2002</b>  | <b>FY 2003</b> | <b>FY 2004</b> | <b>FY 2005</b> |
| Uncooled B-Kit – Extend uncooled focal plane array technology capability across multiple platforms to allow interchangeable parts for lower cost, weight, and volume. FY03 effort will establish technical specifications, producibility and timelines across FCS and Objective Force systems for a Milestone B decision in FY04.   | 1128  | 1500           | 1617           | 0              |
| Target Acquisition Sensor Suite for Future Combat System of Systems (TASS for FCS) – Combine infrared, radar and other sensors for full FCS mast mounted suite. Concept development will include evaluation of Future Scout and Cavalry System (FSCS) prototypes and other sensors, and will produce trade-offs.  | 0   | 1060           | 0              | 0              |
| Evaluate alternative "through wall" devices to support United States Army Intelligence Center - Operations Requirement Document (USAIC ORD) development and develop thru wall technology strategy. Demonstrate through wall technologies for urban tactical environment. This effort looks at component advanced development, CONOPS development, and integration of this capability onto FCS unmanned systems to support a Milestone B decision in FY04.           | 925   | 200            | 1520           | 0              |
| Sense Through The Wall Stand Off-Technology to sense motion in buildings or behind other small structures from a stand-off distance. This is a concept development effort to address key FCS systems requirements.  | 0   | 0              | 550            | 1807           |
| Maintained configuration management of Sensor Link Protocol (SLP) software and coordinated distribution to Army and other DoD agencies.   | 143   | 0              | 0              | 0              |
| Initiate the common multi-sensor integration of a Robotic Sensors technology strategy to support networked sensors for the Objective Force concept for Unattended Ground Sensors (UGS). UGS is a family of specialty sensors for ISR and physical security unattended ground applications. This Pre-Milestone B effort will develop concepts and technologies for FCS and the Objective Force. UGS will transition to System Development and Demonstration in FY04. | 1504  | 1290           | 700            | 0              |
| Emerging Concepts – Explore a range of potential technologies for FCS and the Objective Force that will enable combat identification (friend or foe), sensor fusion, Aided Target Recognition (ATR), Foliage Penetration (FOPEN) technology, and transparent armor concepts.  | 0   | 450            | 506            | 450            |
| Foliage Penetration (FOPEN) - Technology to sense the presence of personnel and man-made objects under natural foliage. This concept development effort defines technology options, develops alternatives, and refines Army requirements.   | 0   | 0              | 130            | 1300           |
| Aided Target Recognition (ATR) - Technology to allow FCS and the Objective Force sensors to automatically detect and recognize targets, and cross cue other sensors in a tactical environment. This concept development effort defines technology, develops alternatives, and refines Army requirements.  | 0   | 0              | 260            | 520            |
| Transparent Armor - Perform concept development for a vehicle sensor system that provides an unimpeded 360 degree view of the immediate area around the vehicle from any crew position for situational awareness and threat detection.  | 0   | 0              | 0              | 1150           |

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|--|---|------------------------------|

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

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

Change Summary Explanation:

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

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

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

| ARMY RDT&E COST ANALYSIS(R-3)  |                        |   |                |   |                    |              |                    | February 2003 |                    |                  |            |                          |
|--|------------------------|---|----------------|---|--------------------|--------------|--------------------|---------------|--------------------|------------------|------------|--------------------------|
| BUDGET ACTIVITY<br>4 - Advanced Component Development and Prototypes |                        |   |                | PE NUMBER AND TITLE<br>0603774A - Night Vision Systems Advanced Development |                    |              |                    |               |                    | PROJECT<br>131   |            |                          |
| I. Product Development   | Contract Method & Type | Performing Activity & Location                  | Total PYs Cost | FY 2003 Cost  | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost  | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
| a . Laser Protection   | C/CP, MIPR             | DRS, Dallas, TX /SBRC, Santa Barbara, CA; NVESD | 2326           | 0   |                    | 0            |                    | 0             |                    | 0                | 2326       | 2326                     |
| b . ATR/ATC Activities   | MIPR                   | Various   | 462            | 0   |                    | 0            |                    | 0             |                    | 0                | 462        | 462                      |
| c . TUAV Laser Rangefinder   | C/CP                   | Versitron, Santa Rosa, CA                       | 300            | 0   |                    | 0            |                    | 0             |                    | 0                | 300        | 300                      |
| d . Large Format Array Uncooled Thermal Sight                        | C/CP                   | To Be Selected                                  | 400            | 0   |                    | 0            |                    | 0             |                    | 0                | 400        | 360                      |
| e . LRAS3 /LLDR Telescopic Mast Demo                                 | MIPR                   | NVESD   | 685            | 0   |                    | 0            |                    | 0             |                    | 0                | 685        | 1781                     |
| f . Uncooled B-Kit Evolution/Development                             | C/CP                   | ADC, Newington, VA                              | 957            | 1450  | 1-2Q               | 1617         | 1Q                 | 0             |                    | 0                | 4024       | 894                      |
| g . Head Tracked Commander's Sight                                   | C/CP                   | Various   | 223            | 0   |                    | 0            |                    | 0             |                    | 0                | 223        | 223                      |
| h . Demo and eval of ENVG technology                                 | Various                | Various   | 1778           | 0   |                    | 0            |                    | 0             |                    | 0                | 1778       | 1778                     |
| i . Demo and eval of ANVG  | Various                | Various   | 1320           | 0   |                    | 0            |                    | 0             |                    | 0                | 1320       | 1320                     |
| j . Cost Benefit Analysis TUAV                                       | MIPR and C/FP          | TRAC-WSMR, NM and TBE, Huntsville, AL           | 910            | 0   |                    | 0            |                    | 0             |                    | 0                | 910        | 910                      |

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

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

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

| ARMY RDT&E COST ANALYSIS(R-3)  |                        |                                |                |   |                    |              |                    | February 2003 |                    |                  |            |                          |
|--|------------------------|--------------------------------|----------------|---|--------------------|--------------|--------------------|---------------|--------------------|------------------|------------|--------------------------|
| BUDGET ACTIVITY<br>4 - Advanced Component Development and Prototypes |                        |                                |                | PE NUMBER AND TITLE<br>0603774A - Night Vision Systems Advanced Development |                    |              |                    |               | PROJECT<br>131     |                  |            |                          |
| II. Support Cost   | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost  | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost  | FY 2005 Award Date | Cost To Complete | Total Cost | Target Value of Contract |
| a . Matrix Support   | MIPR                   | Various                        | 1075           | 172   | 1Q                 | 178          | 1Q                 | 185           | 1Q                 | Continue         | Continue   | Continue                 |
| b . Matrix Support   | MIPR                   | CECOM Fort Monmouth, NJ        | 920            | 1080  | 2Q                 | 0            |                    | 0             |                    | Continue         | 2000       | Continue                 |
| c . Engineering Support  | FFP                    | MITRE; McLean, VA              | 856            | 360   | 2Q                 | 0            |                    | 0             |                    | Continue         | Continue   | Continue                 |
| d . Engineering Support  | FFP                    | CACI, Fort Monmouth, NJ        | 1406           | 950   | 2Q                 | 0            |                    | 0             |                    | 0                | 2356       | 0                        |
|  |                        |                                |                |   |                    |              |                    |               |                    |                  |            |                          |
|  |                        |                                | 4257           | 2562  |                    | 178          |                    | 185           |                    | Continue         | Continue   | Continue                 |
| Subtotal:  |                        |                                |                |   |                    |              |                    |               |                    |                  |            |                          |
| III. Test and Evaluation   | Contract Method & Type | Performing Activity & Location | Total PYs Cost | FY 2003 Cost  | FY 2003 Award Date | 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                      |

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

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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 |
|-------------------------|------------------------|---------------------------------------|----------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|------------------|------------|--------------------------|
| a . Program Management  |                        | PM-NV/RSTA, Ft.Belvoir, VA            | 260            | 24           | 1-4Q               | 24           | 1-4Q               | 24           | 1-4Q               | Continue         | Continue   | Continue                 |
| b . Program Management  |                        | PM, Signals Warfare, Fort Monmouth NJ | 600            | 621          | 1-4Q               | 0            |                    | 0            |                    | 0                | 1221       | 1221                     |
|                         |                        |                                       |                |              |                    |              |                    |              |                    |                  |            |                          |
| Subtotal:               |                        |                                       | 860            | 645          |                    | 24           |                    | 24           |                    | Continue         | Continue   | Continue                 |
|                         |                        |                                       |                |              |                    |              |                    |              |                    |                  |            |                          |
| Project Total Cost:     |                        |                                       | 36299          | 11170        |                    | 5283         |                    | 5227         |                    | Continue         | Continue   | Continue                 |

## Schedule Profile Detail (R-4a Exhibit)

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

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