

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

February 2005

## BUDGET ACTIVITY

**3 - Advanced technology development**

## PE NUMBER AND TITLE

**0603125A - Combating Terrorism, Technology Development for**

| COST (In Thousands)                   | FY 2004<br>Actual | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate |
|---------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Total Program Element (PE) Cost       | 8480              | 8034                | 6306                | 7399                | 7997                | 8169                | 8167                | 7656                |
| DF1 SURVIVABILITY & DENIAL            | 4783              | 3241                | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| DF2 DETERRENCE, INDICATION & WARNINGS | 1751              | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| DF3 CONSEQUENCE MANAGEMENT & RECOVERY | 1946              | 4793                | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   |
| DF5 AGILE INTEGRATION & DEMONSTRATION | 0                 | 0                   | 6306                | 7399                | 7997                | 8169                | 8167                | 7656                |

**A. Mission Description and Budget Item Justification:** The objective of this program element is to mature and demonstrate advanced survivability engineering technologies against asymmetric threats in support of the Future Force and, where feasible, exploit opportunities to enhance Current Force. This PE also funds efforts to accelerate technologies with high payoff to address current operational shortfalls and assist deliveries of Future Force oriented projects into current operations capabilities. Base Camp Protection, Project DF1, demonstrates a survivability planning capability and lightweight low-cost blast/ballistic protective measures. This will increase base camp survivability of personnel and equipment against advanced conventional weapons and terrorist threats, reduce logistics requirements, and enhance the capability of the Future Force in low-intensity conflicts and peacekeeping operations. Projects DF2 and DF3 fund congressional special interest items. Agile Integration and Demonstration, Project DF5, funds critical technology acceleration efforts of selected high-payoff technologies emerging from work in other PEs that have potential to fill emerging capability gaps requiring immediate action. The cited work is consistent with Strategic Planning Guidance, Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this PE is performed by the U.S. Army Engineer Research and Development Center headquartered at Vicksburg, Mississippi and Research Development and Engineering Command (RDECOM), Ft. Belvoir, Virginia.

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Development for**

| <b><u>B. Program Change Summary</u></b> | <b>FY 2005</b> | <b>FY 2006</b> | <b>FY 2007</b> |
|---|----------------|----------------|----------------|
| Previous President's Budget (FY 2005)   | 3383           | 0              | 0              |
| Current Budget (FY 2006/2007 PB)        | 8034           | 6306           | 7399           |
| Total Adjustments                       | 4651           | 6306           | 7399           |
| Net of Program/Database Changes         |                |                |                |
| Congressional Program Reductions        | -118           |                |                |
| Congressional Rescissions               |                |                |                |
| Congressional Increases                 | 5000           |                |                |
| Reprogrammings                          |                |                |                |
| SBIR/STTR Transfer                      | -231           |                |                |
| Adjustments to Budget Years             |                | 6306           | 7399           |

**Change Summary Explanation:**

FY06 - Increased funding (\$6306K) funds new project DF5, Agile Integration, Demonstration, & Experimentation (AIDE) program to accelerate technologies with high payoff to address current operational shortfalls and assists accelerated delivery of Future Force oriented projects to current operations.

FY07 - Increased funding (\$7399K) funds new project DF5, Agile Integration, Demonstration, & Experimentation (AIDE) program to accelerate technologies with high payoff to address current operational shortfalls and assists accelerated delivery of Future Force oriented projects to current operations.

One FY05 Congressional add totaling \$5000 was added to this PE.

FY05 Congressional add with no R-2A:

(\$4795) Advanced Mobile Micro Grid Program, Project DF3. The purpose of this one year Congressional add is to fund research on an advanced mobile micro grid program. No additional funds are required to complete this project.

| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)   |                                   |  |   |                     |                     | February 2005       |                     |                     |                     |                     |
|--|-----------------------------------|--|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| BUDGET ACTIVITY<br>3 - Advanced technology development   |                                   |  | PE NUMBER AND TITLE<br>0603125A - Combating Terrorism, Technology Development for |                     |                     | PROJECT<br>DF5      |                     |                     |                     |                     |
| COST (In Thousands)  |                                   |  | FY 2004<br>Actual   | FY 2005<br>Estimate | FY 2006<br>Estimate | FY 2007<br>Estimate | FY 2008<br>Estimate | FY 2009<br>Estimate | FY 2010<br>Estimate | FY 2011<br>Estimate |
| DF5  | AGILE INTEGRATION & DEMONSTRATION |  | 0   | 0                   | 6306                | 7399                | 7997                | 8169                | 8167                | 7656                |
| <p><b>A. Mission Description and Budget Item Justification:</b> This project focuses on exploiting maturing technology development efforts at The Army Research Laboratory (ARL) and Research Development and Engineering Centers (RDECs) to address emerging or already identified warfighter requirements. This project would identify and work with Labs and RDECs to address the critical maturation issues necessary to make identified technologies viable candidates for transition to an operational environment. Short term maturation could include, but is not limited to, accelerating the technology development schedule and/or performing detailed safety &amp; validation tests in a field/operational environment testing to improve technology readiness. While not limited to this area, a major effort under this project supports the accelerated maturation of counter IED capabilities (detection, surveillance of deployment and disruption / destruction of threat) for transition into an operational environment. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan, the Army Modernization Plan, and the Defense Technology Area Plan. Work in this project is managed by the US Army Research, Development and Engineering Command, Ft. Belvoir, Virginia.</p> |                                   |  |   |                     |                     |                     |                     |                     |                     |                     |

| ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)  |  | February 2005   |         |                |         |
|---|--|---|---------|----------------|---------|
| BUDGET ACTIVITY<br>3 - Advanced technology development  |  | PE NUMBER AND TITLE<br>0603125A - Combating Terrorism, Technology Development for |         | PROJECT<br>DF5 |         |
| <u>Accomplishments/Planned Program</u>  |  | FY 2004   | FY 2005 | FY 2006        | FY 2007 |
| - Agile Integration and Demonstration Efforts - In FY06, in conjunction with the Army Labs, RDECs, and the U.S. Army Training and Doctrine Command, will identify emerging requirements and capability gaps, assess technologies that fill capability gaps, prioritize potential solutions and mature technology efforts that may have direct impact on emerging warfighters needs that requires a short term (4 to 18 months) maturation prior to becoming a reasonable candidate for transition to operational use. Expected development efforts include tagging, tracking and surveillance technologies to provide "backtrack" capability to help identify the launch point of threats and IED events; mature and validate tracking algorithms through evaluations in an operationally relevant environment, and evaluate sensor to platform integration. In FY07, will refine response time to pick-up targets from increased distances; miniaturize existing sensors; and validate required performance through operational tests. |  | 0   | 0       | 6306           | 7399    |
| Totals  |  | 0   | 0       | 6306           | 7399    |
|   |  |   |         |                |         |