

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

June 2001

BUDGET ACTIVITY
4 - DEM/VAL

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

COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	11884	22594	21651	0	0	0	0	0	0	0
005 LANDMINE ADV DEV	2975	12644	11426	0	0	0	0	0	0	0
606 CNTRMN/BARRIER ADV DEV	8909	9950	10225	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification:

PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

This program element provides for component development of new mine and counter mine systems by prototyping modern munitions technology, sensors, logic networks, fuzes, power sources, warhead components and modules into complete systems. It provides for system integration of the Intelligent Combat Outpost (Raptor) which will significantly enhance minefield effectiveness through coordinated attack/tactics and elimination of overwatch forces. It also provides for the initiation and/or continuation of component development of the Airborne Stand-off Minefield Detection System (ASTAMIDS), Handheld Stand-off Mine Detection System (HSTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS). These Systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

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<u>B. Program Change Summary</u>	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY 2001 PB)	10934	22803	30773	0
Appropriated Value	11099	22803	0	
Adjustments to Appropriated Value	0	0	0	
a. Congressional General Reductions	0	0	0	
b. SBIR/STTR	-293	0	0	
c. Omnibus or other above threshold reduction	-46	0	0	
d. Below threshold reprogramming	1243	0	0	
e. Rescissions	-119	-209	0	
Adjustments to Budget Years Since FY 2001 PB	0	0	-9122	
Withholds	0	0	0	
Current Budget Submit (FY 2002/2003 PB)	11884	22594	21651	0

Funding: In FY02 a decrease of \$9122K reflects an Army decision to support a higher priority requirement. FY03: The increase of \$12411K supports Raptor Block II and the Airborne Stand-off Minefield Detection System (ASTAMIDS).

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Dev**

PROJECT
005

COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
005 LANDMINE ADV DEV	2975	12644	11426	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: Intelligent Combat Outpost (Raptor) will improve the capability of smart mines/munitions used by the United States Army. It will enhance the effectiveness of current and future mines/munitions by providing real time targeting data, increase situational awareness, and coordinate attack capabilities while eliminating the need for overwatch forces. This System supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2000 Accomplishments

- 262 Simulation Development.
- 1358 System Specification developed
- 450 Sensor Studies conducted
- 430 Statement of Work developed
- 475 Decision Review package developed

Total 2975

FY 2001 Planned Program

- 530 Conduct Solicitation Development and Source Selection Evaluation Board
- 2050 Conduct study of Wide Area Munitions (WAM) to Gateway interface requirements and develop Interface Control Document
- 8438 Initiate Component Advanced Development
- 1250 Continue modeling and simulation development
- 376 Small Business Innovation Research/Small Business Technology Transfer Program.

Total 12644

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PROJECT
005

FY 2002 Planned Program

- 9256 Continue design/development of Raptor system components: gateway, overwatch sensor, control station, communications.
- 910 Initiate fabrication and assembly of 5 sets of Raptor hardware for System Component Development test.
- 880 Conduct contractor design test and simulation.
- 380 Initiate trainer design.

Total 11426

<u>B. Other Program Funding Summary</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	To Compl	Total Cost
PE 0604808, Project D016, Mine Systems Engineering	14834	0	4521	0	0	0	0	0	0	0
SSN: M12100, Intelligent Combat Outpost	0	0	0	0	0	0	0	0	0	0
SSN: M12202, Raptor Training Device	0	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy: Component Advanced Development contracts will be awarded to one or more contractors to develop the RAPTOR system.

<u>D. Schedule Profile</u>	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Raptor Decision Review Documentation		2Q		0	0	0	0	0
Complete Eng. Dev. testing			2Q	0	0	0	0	0
Complete Engineering user tests			2Q	0	0	0	0	0
Raptor MS B				0	0	0	0	0
Complete IOT&E				0	0	0	0	0
Raptor MS C				0	0	0	0	0

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**PROJECT
005**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Raptor Component Advanced Development	C-CPIF	TBD	0	8438	3Q	8020	2Q	0	0	0	0	Continue
Subtotal:			0	8438		8020		0		0	0	Continue

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Eng. support (Raptor)	MIPR	ARDEC, Picatinny Arsenal NJ	2099	1834	1Q	1700	1Q	0	0	0	0	Continue
b . Simulation/modeling	MIPR	CRREL, New Hampshire	200	600	1Q	340	1Q	0	0	0	0	0
c . Other OGAs/contracts	Various	Various	989	816	1Q	560	1Q	0	0	0	0	Continue
Subtotal:			3288	3250		2600		0		0	0	Continue

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**PROJECT
005**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test support (RAPTOR)	MIPR	ATEC, Virginia	0	50	1Q	350	1Q	0	0	0	0	Continue
Subtotal:			0	50		350		0		0	0	Continue

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management	In-house	PM-MCD, Picatinny Arsenal, New Jersey	372	906	1Q	456	1Q	0	0	0	0	Continue
Subtotal:			372	906		456		0		0	0	Continue

Project Total Cost:			3660	12644		11426		0		0	0	Continue
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PROJECT
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COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
606 CNTRMN/BARRIER ADV DEV	8909	9950	10225	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: This project provides for component development of new countermines systems by prototyping sensors for evaluation of neutralizing, clearing, breaching and detection concepts which will enhance the U.S. capability in countermines warfare. The program includes the Airborne Standoff Minefield Detection System (ASTAMIDS), Handheld Stand-off Mine Detection System (HSTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS). These Systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

FY 2000 Accomplishments

- 3610 Finalized development and fabrication of six HSTAMIDS prototypes
 - 1120 Completed HSTAMIDS contractor system test and evaluation
 - 1551 Conducted HSTAMIDS government test and evaluation
 - 378 Prepared documentation for HSTAMIDS MS B
 - 1000 Performed Trade-off Analysis for Quadruple Resonance (QR) Sensor Configurations (GSTAMIDS)
 - 1250 Began design for GSTAMIDS Quadruple Resonance Sensor Configurations.
- Total 8909

FY 2001 Planned Program

- 8004 Development of GSTAMIDS Quadruple Resonance Confirmation Sensors
 - 1650 Source selection and award GSTAMIDS Block 1 Systems Integration Contract
 - 296 Small Business Innovation Research/Small Business Technology Transfer Program.
- Total 9950

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PROJECT
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FY 2002 Planned Program

- 5025 Contractor Testing and Integration Risk Reduction of GSTAMIDS Quadruple Resonance Sensors
- 4500 Complete GSTAMIDS Block I System Integration.
- 700 Prepare for and conduct GSTAMIDS Block I MS B IPR.

Total 10225

<u>B. Other Program Funding Summary</u>	<u>FY 2000</u>	<u>FY 2001</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>To Compl</u>	<u>Total Cost</u>
PE 0604808A, Project D415, Mine Neutralization/Detection	9104	32941	37095	0	0	0	0	0	0	0
MA7700, Items <\$5.0M Countermining Eq.	0	1975	156	0	0	0	0	0	0	0
R68101, GSTAMIDS	0	0	13272	0	0	0	0	0	0	0
R68102, GSTAMIDS Block 1	0	0	0	0	0	0	0	0	0	0
R68200, HSTAMIDS	0	0	0	0	0	0	0	0	0	0
G04001, CMCS	0	0	24560	0	0	0	0	0	0	0

C. Acquisition Strategy: Airborne Stand-off Minefield Detection System (ASTAMIDS) will competitively select a System Component Development contractor. Will award a sole source System Development and Demonstration (SDD) contract upon completion of System Component Development phase and MDA approval. Sole source production contract with multiple options is anticipated for successful SDD contractor. Ground Stand-off Minefield Detection System (GSTAMIDS) program is a spiral development and acquisition program designed to field vehicle mounted mine detection and neutralization capabilities in successive block upgrades (Blocks 0,1, and 2). The Block I Contract will be competitive and will be awarded in System Component Development Phase. The Block I SDD contract may be competitively solicited with multiple production options. Handheld Stand-off Minefield Detection System (HSTAMIDS), will have two competing contractors at start of System Component Development phase. In FY99 one contractor was selected to continue the extended System Component Development phase through SDD. If successful, SDD contractor will be awarded the production contract with multiple options.

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D. Schedule Profile	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
GSTAMIDS Block 0 MS C			4Q	0	0	0	0	0
GSTAMIDS Block I MS B			4Q	0	0	0	0	0
GSTAMIDS Block I MS C				0	0	0	0	0
HSTAMIDS MS B		1Q		0	0	0	0	0
HSTAMIDS MS C				0	0	0	0	0
ASTAMIDS MS B				0	0	0	0	0
ASTAMIDS MS C				0	0	0	0	0

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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . HSTAMIDS	C-CPIF	Various	17207	0		0		0	0	0	0	0
b . HSTAMIDS	C-CPIF	Coleman Research, Washington, DC	2444	0		0		0	0	0	0	0
c . GSTAMIDS	C-CPFF	Various	2177	0		0		0	0	0	0	0
d . GSTAMIDS, Blk I QR; System concept Contract	C-CPFF	TBD	0	975	3Q	2375	3Q	0	0	0	0	0
e . GSTAMIDS	C-CPFF	Quantum Magnetics, San Diego, CA	2000	7267		4055		0	0	0	0	0
f . ASTAMIDS	C-CPIF	TBD	0	0		0		0	0	0	0	0
Subtotal:			23828	8242		6430		0		0	0	0

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II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . GSTAMIDS Blk 0 Eng. Support	MIPR	Various	1427	0		0		0	0	0	0	0
b . GSTAMIDS Blk I Eng. Support	MIPR	Various	0	837	3Q	2060	3Q	0	0	0	0	0
c . HSTAMIDS Eng. Support	MIPR	Various	4316	0		0		0	0	0	0	0
d . HSTAMIDS Eng. Support	MIPR	Various	376	0		0		0	0	0	0	0
e . ASTAMIDS	MIPR	Various	0	0		0		0	0	0	0	0
Subtotal:			6119	837		2060		0		0	0	0

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . GSTAMIDS Blk I Test Support	MIPR	ATEC, Virginia	0	100	3Q	800	3Q	0	0	0	0	0
b . GSTAMIDS Blk 0 Test support	MIPR	ATEC, Virginia	1456	0		0		0	0	0	0	0
c . HSTAMIDS Test Support	MIPR	ATEC, Virginia	2982	0		0		0	0	0	0	0
d . ASTAMIDS	MIPR	ATEC, Virginia	0	0		0		0	0	0	0	Continue
Subtotal:			4438	100		800		0		0	0	Continue

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Prog Mgmt GSTAMIDS	In-house	PM-MCD, Picatinny, NJ	264	314	1Q	435	1Q	0	0	0	0	0
b . Prog Mgmt GSTAMIDS	C-FP	Various	662	457	1-4Q	500	1-4Q	0	0	0	0	0
c . Prog Mgmt HSTAMIDS	In-house	PM-MCD, Picatinny, NJ	745	0		0		0	0	0	0	0
d . Prog Mgmt HSTAMIDS	C-FP	Various	1078	0		0		0	0	0	0	0

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IV. Management Services (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
e. ASTAMIDS	In-house	PM-MCD	0	0		0		0	0	0	0	Continue
Subtotal:			2749	771		935		0		0	0	Continue
Project Total Cost:			37134	9950		10225		0		0	0	Continue