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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)	DATE February 1999
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development
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COST (<i>In Thousands</i>)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	4470	2899	6064	52560	120989	134217	184331	Continuing	Continuing
D022 Future Scout Vehicle (FSV) - Engineering Development	0	0	0	3850	52560	120989	118692	159315	Continuing	Continuing
D175 Multi-Option Fuze Advanced Field Artillery System	0	4470	2899	2214	0	0	0	0	0	48281
D426 Advanced Colt System	0	0	0	0	0	0	15525	25016	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element supports the Engineering and Manufacturing Development efforts for the Multi-Option Fuze for Artillery (MOFA) and the Future Scout and Cavalry System (FSCS), formerly known as Future Scout System (FSV) MOFA will provide proximity, time, delay, and point detonation functions for 105mm and 155mm bursting projectiles. The FSCS will replace the current ground scout systems in the scout platoon, company/troop, battalion/squadron, brigade/regimental units.

B. Program Change Summary	FY 1998	FY 1999	FY 2000	FY 2001
Previous President's Budget (FY 1999 PB)	0	4500	3000	6300
Appropriated Value		4500		
Adjustments to Appropriated Value				
a. Congressional General Reductions		-30		
b. SBIR/STTR				
c. Omnibus or Other Above Threshold Reductions				
d. Below Threshold Reprogramming				
e. Rescissions				
Adjustments to Budget Years Since FY 1999 PB			-101	-236
Current Budget Submit (FY 2000 / 2001 PB)	0	4470	2899	6064

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development				PROJECT D022		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D022 Future Scout Vehicle (FSV) - Engineering Development	0	0	0	3850	52560	120989	118692	159315	Continuing	Continuing
<p>A. <u>Mission Description and Budget Item Justification:</u> Project D022, Future Scout and Cavalry System, funds the Engineering and Manufacturing Development phase of the Future Scout and Cavalry System (FSCS). The FSCS will replace the current ground scout systems in the platoon, company/troop, battalion/squadron, brigade/regiment and division/regiment levels. This project transitions the FSCS from the science and technology base, where it is funded as an advanced technology demonstration (ATD) in PE 0603005A, Project D440. The EMD phase will start in FY 02. The FY 01 funding will complete establishment of the program management office (PMO) within the Program Executive Officer, Ground Combat and Support Systems (PEO, GCSS). In FY 01, the PMO will make preparations for the pending milestone I/II decision review and prepare and release the request for proposal for the EMD phase. FY 01 funding will also ensure continuity of effort in the programs risk reduction initiatives/efforts.</p> <p>FY 1998 Accomplishments: Project not funded in FY 1998</p> <p>FY 1999 Planned Program: Project not funded in FY 1999</p> <p>FY 2000 Planned Program: Project not funded in FY 2000</p> <p>FY 2001 Planned Program:</p> <ul style="list-style-type: none"> • 2640 In-house Support • 650 Other Government Agency Support • 560 Management Support <p>Total 3850</p>										
B. <u>Other Program Funding Summary</u>										
	<u>FY 1998</u>	<u>FY 1999</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>To Compl</u>	<u>Total Cost</u>
PE 603645A, D018- Future Scout Vehicle (FSV) Advanced Development	1130								0	1130
PE 603005A, D440-Advanced Combat Vehicle Technology	5942	24283	55470	65487	26843				0	157309
<div style="display: flex; justify-content: space-between;"> Project D022 Page 2 of 9 Pages Exhibit R-2A (PE 0604645A) </div>										

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	PROJECT D022
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C. Acquisition Strategy: Plans call for the competitive award of one 52 month contract to a US/UK consortium selected from the two US/UK consortia who participated in the ATD phase. A 50/50 cost sharing of all common development costs will be maintained in the EMD phase. EMD phase will encompass preparation for the Milestone Stone reviews, preparation and release of the EMD Request For Proposal, award of the EMD contract, and early user and technical testing of EMD prototypes.

D. Schedule Profile	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</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>
Harmonization efforts & preparation for MS I/II					4Q				
Harmonize CORD & Release EMD RFP					4Q				
Program MS I / II						4Q			
Award EMD contract						4Q			
EMD Contract CDR (projected)							4Q		
Begin Early User & technical testing of EMD prototypes								4Q	
Complete Early User testing of prototypes									1Q
LRIP									4Q

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development					PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development					PROJECT D022		
I. Product Development: Not applicable												
II. Support Costs												
Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract	
a. PMO Support	PEO-GCSS						2640		Cont.	2640		
b. Matrix Support	USATACOM						560		Cont.	560		
c. OGAs	Various OGAs						650		Cont.	650		
Subtotal Support Costs:							3850			3850		
III. Test and Evaluation: Not applicable												
IV. Management Services												
Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract	
a. Mgmt Sup Contract							Cont.		Cont.			
Subtotal Management Services:							Cont					
Project Total Cost:							3850			3850		

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)	DATE February 1999
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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	PROJECT D175
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COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D175 Multi-Option Fuze Advanced Field Artillery System	0	4470	2899	2214	0	0	0	0	0	48281

A. Mission Description and Justification This project finances the Engineering and Manufacturing Development phase of the Multi Option Fuze Artillery (MOFA). MOFA will provide proximity, delay, time and point detonation functions for 105mm and 155mm bursting projectiles. MOFA will be inductively set. This induction set feature is critical to the automated ammunition handling capability of the Crusader 155mm self-propelled howitzer, allowing Crusader to meet rate of fire (10 rounds/min) requirements. The Portable Inductive Artillery Fuze Setter (PIAFS) is being developed to allow non-Crusader equipped artillery units to inductively set the MOFA. A Low Cost Advanced Target Sensor (LCATS) is being developed for enhanced electronic countermeasures effects.

FY 1998 Accomplishments: Project not funded in FY 1998

FY 1999 Planned Program:

- 1116 Design enhancements and qualification builds, XM782 (Contract Task VI), this includes the cost for 500 XM782 fuzes for testing
 - 750 Low Cost Advanced Target Sensor (LCATS) development
 - 1240 Portable Inductive Artillery Fuze Setter (PIAFS) advanced development and testing
 - 300 Program management and management engineering services
 - 945 Conduct XM782 MOFA Pre-Production Qualification Testing (PPQT)
 - 119 Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Programs
- Total 4470

FY 2000 Planned Program:

- 721 Low Cost Advanced Target Sensor (LCATS) development and technology insertion
 - 241 Program management & management engineering
 - 757 Complete Portable Inductive Artillery Fuze Setter (PIAFS) development effort
 - 1180 Complete PIAFS testing and initiate LCATS testing
- Total 2899

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development	PROJECT D175

FY 2001 Planned Program:

- 872 Low Cost Advanced Target Sensor (LCATS) development and technology insertion
 - 242 Program management and management engineering
 - 1100 Complete LCATS testing
- Total 2214

B. Other Program Funding Summary	<u>FY 1998</u>	<u>FY 1999</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>To Comp</u>	<u>Total Cost</u>
Procurement, Ammo, Army, ER 8017		1510	14061	45917	53257	53921	54032	56430	Cont	Cont
OPA-2, Army, AD3260			4137						0	4137
RDTE, BA4, Army, PE 0603854, D505	298012	311257	282937	120457	4	6			0	1241461
RDTE, BA5, Army, PE 0604854, D503			60577	315253	411143	258066	295415	23988	0	1364442
Procurement, WTCV, Army, G83500					41607	95543	382601	628003	9437130	10584884
Procurement, WTCV, Army, G83600					32967	80240	314331	499726	7633500	8560764

C. Acquisition Strategy: Intent is to award a sole source FFP contract to the RDTE developer for the XM782 MOFA for FY 1999 and FY 2000 buys. The FY 2001 buy will be awarded on a competitive basis. We anticipate that the Low Cost Advanced Target Sensor (LCATS) will be incorporated into the XM782 design during the FY 2001 buy. Beginning with the FY2002 buy a Multi-year contract will be awarded on a competitive basis. A competitive award will be made on the Portable Inductive Artillery Fuze Setter (PIAFS) using a FFP contract in FY 2000.

D. Schedule Profile	<u>FY 1998</u>	<u>FY 1999</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>
XM782 MOFA								
TC testing		2Q						
MS III XM782		4Q						
EMD Contract Complete		2Q						
Portable Inductive Artillery Fuze Setter (PIAFS)								
Initiated PIAFS Program	4Q*							
PIAFS in-house Development Complete		2Q						
PIAFS Contract Award		2Q						
PIAFS TC testing			2Q					
PIAFS MS III			3Q					

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D. Schedule Profile	<u>FY 1998</u>	<u>FY 1999</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>
Low Cost Advanced Target Sensor (LCATS)								
LCATS EMD Contract Award	4Q*							
LCATS Task VII Award		2Q						
LCATS Task VII Complete			3Q					
LCATS Insertion to Technical Data Package				1Q				
*Milestone Completed								

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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604645A Armored Systems Modernization (ASM) - Engineering Development						PROJECT D175		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Primary Hardware Development	C-C	Alliant Techsystems Hopkins, MN	21197	800	Apr-99	400	Oct-99	500	Oct-00	0	22897	20739
b. Producibility Spt.	SS-CPFF	Raytheon/TI Joint Ventures, Tewksbury, MA	1788							0	1788	
c. PIAFS Development Contract	CPIF	TBD		420	May-99					0	420	
d. Engineering development		TACOM, ARDEC, Picatinny, NJ; Adelphi, MD	9232	1603	Oct-98	1078	Oct-99	372	Oct-00	0	12285	
e. Low Cost Advanced Target Sensor Contracts	SS-FFP	ICS, CA University of Florida, FL	385	50	Feb-99					0	435	
Subtotal Product Development:			32602	2873		1478		872			37825	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Documentation Spt.	C-FFP	PRC, NJ; ARDEC, Picatinny, NJ		95	Oct-98	26	Oct-99	27	Oct-00	0	148	
Subtotal Support Costs:				95		26		27			148	
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Program testing		TECOM, Yuma, AZ; APG; ARL, MD; ARDEC, NJ; HAFB	2556	1083	Oct-98	1180	Oct-99	1100	Mar-01	0	5919	

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Subtotal Test and Evaluation:			2556	1083		1180		1100		5919		
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Management and Management oversight		TACOM, ARDEC, Picatinny, NJ; Adelphi, MD	3540	300	Oct-98	215	Oct-99	215	Oct-00	0	4270	
b. SBIR/STTR				119							119	
Subtotal Management Services:			3540	419		215		215			4389	
Project Total Cost:			38698	4470		2899		2214			48281	

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