

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)							February 2003				
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition							
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	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		52252	26492	11249	1943	86097	92032	78882	84998	Continuing	Continuing
643	120MM CONVENTIONAL TANK AMMUNITION	28725	5013	5374	1943	868	866	826	855	0	71481
64B	105MM CONVENTIONAL TANK AMMUNITION	23527	18621	3917	0	25490	39237	23339	1809	0	135940
656	MULTI ROLE ARMAMENT AND AMMUNITION SYSTEM (MRAAS)	0	0	0	0	59739	51929	54717	82334	Continuing	Continuing
694	MEDIUM CALIBER AMMUNITION	0	2858	1958	0	0	0	0	0	0	4816
<p><u>A. Mission Description and Budget Item Justification:</u>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 technology 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.</p> <p>The current cartridge development areas are in Kinetic Energy (120mm, M829E3), Training Ammunition (120mm, XM1002 and 25mm, M910E1), Anti-Personnel (105mm, XM1040 and 120mm, XM1028) and Mid Range Munition (MRM), in support of weapon platforms. MRM will provide greater hit probability at extended ranges, both line-of-sight and beyond-line-of-sight, increased survivability and lethality for the Mounted Combat System (MCS) in the Future Combat System and with 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.</p> <p>To date, six rounds of tank ammunition (M829A1, M829A2, M830A1, M865, M831 and M829E3 (Low Rate Production)) have completed development under this program and entered/completed production.</p> <p>This PE supports the Legacy-to-Objective and Objective Transition Paths of the Transformation Campaign Plan (TCP).</p>											

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)**February 2003****BUDGET ACTIVITY****4 - Advanced Component Development and Prototypes****PE NUMBER AND TITLE****0603639A - Tank and Medium Caliber Ammunition**

<u>B. Program Change Summary</u>	FY 2002	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2003)	52074	11354	7618	2148
Current Budget (FY 2004/2005 PB)	52252	26492	11249	1943
Total Adjustments	178	15138	3631	-205
Congressional program reductions				
Congressional rescissions		-456		
Congressional increases		16500		
Reprogrammings	1591	-173		
SBIR/STTR Transfer	-1413	-733		
Adjustments to Budget Years			3631	-205

FY 2003: Congressional increases were provided for the following programs: \$1.0M for global positioning system interference suppression unit; \$5.0M for mid-range munition (MRM) kinetic energy (KE); \$10.5 for mid-range / tank extended range munition tri-mode munition.

FY 2004: Additional funds support the completion of System Development and Demonstration for the XM1028 Anti-Personnel Canister Cartridge.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)								February 2003			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition				PROJECT 643			
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	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	28725	5013	5374	1943	868	866	826	855	0	71481
<p><u>A. Mission Description and Budget Item Justification:</u> This project develops ammunition for the Current Tank Force and the Future Combat System (FCS).</p> <p>This project continues development of the 120mm XM1002 Target Practice Multi-Purpose with Tracer (TPMP-T) training cartridge. This cartridge will be a 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 range restrictions on many types of service ammunition.</p> <p>This program provides for 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 armed with hand-held anti-tank and automatic weapons at close range (700 meters or less). Upon muzzle exit, 1100 + tungsten balls are expelled, similar in concept to a shotgun shell. Unlike previous anti-personnel tank cartridges, the XM1028 has no fuze and is intended to be a simple, low-cost, low-technology cartridge. Additionally, this project will leverage ongoing and projected International Cooperative developments such as Future Tank Main Armament (FTMA) and other program arrangements and agreements.</p> <p>This project supports the Legacy-to-Objective and Objective transition path of the Transformation Campaign Plan (TCP).</p>											
<u>Accomplishments/Planned Program</u>						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>		
Complete M829E3 EMD						16575	0	0	0		
XM1002 TPMP-T Cartridge Engineering and Manufacturing Development (EMD) Phase 1 completion and Phase 2.						4800	3513	0	0		
Systems Development and Demonstration (SDD) (XM1028)						5350	1500	5374	0		
Initial Cartridge/System Integration (MRM)						2000	0	0	0		
Conduct 120mm Lethality Studies						0	0	0	1943		
Totals						28725	5013	5374	1943		

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BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition					PROJECT 643	
B. Other Program Funding Summary	FY 2002	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	46428	50690	39905	34492	27261	0	0	0	0	198776
E73400-M865 120mm KE Tank Trainer Cartridge	96343	101922	84650	87183	88925	102617	134861	126401	Continuing	Continuing
E78013-M829E3 120mm Tank KE Cartridge	35178	39643	36520	42500	44603	45875	45834	45907	Continuing	Continuing
E78011 M1028 120mm Canister Cartridge	0	2954	5888	7345	5863	0	0	0	0	22050
E73201 M1002 120mm MPAT Tank Trainer Cartridge	0	0	9715	15473	25090	49383	69603	65164	Continuing	Continuing
<p>C. Acquisition Strategy:These funds support the continuing development of the XM1002 TPMP-T training cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) are being used. The XM1002 will replace the current M831A1 training cartridge.</p> <p>These funds support the continuing development of the XM1028 Canister Cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) are being used.</p> <p>Prior year funds (FY 2002 and earlier) funded development of the M829E3 APFSDS-T and MRM along with the XM1002 and XM1028. Operational Requirements Documents (ORDs) have been approved for the XM1028, XM1002, and M829E3.</p>										

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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 . Alliant Techsystems (M829E3)	C-CPIF	Alliant Techsystems, Twin Cities Army Ammunition Plant (T-CAAP), New Brighton, MN	50257	0		0		0		0	50257	0
b . TACOM-ARDEC (M829E3)	MIPR	Picatinny Arsenal, NJ	47636	0		0		0		0	47636	0
c . Army Research Lab (M829E3)	MIPR	Aberdeen PG, MD	19395	0		0		0		0	19395	0
d . Rheinmettal(M829E3)	SS-FFP	Germany	3000	0		0		0		0	3000	0
e . Batelle Northwest Lab (M829E3)	MIPR	Richland, WA	4410	0		0		0		0	4410	0
f . Miscellaneous (M829E3)	MIPR	Multiple	2550	0		0		0		0	2550	0
g . MRM Contract)	CPFF	Scientific Technical Associates (STA)	100	0		0		0		0	100	0
h . MRM (Integration Contract)	C-CPFF	Raytheon, AZ	450	0		0		0		0	450	0
i . XM1002 TPMP-T Ctg	FFP	Alliant Ammunition Systems, Twin Cities Army Ammunition Plant, New Brighton, MN	4715	0		0		0		0	4715	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes					PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition					PROJECT 643		
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 . TACOM -ARDEC (XM1002)	MIPR	Picatinny Arsenal, NJ	1300	935	1-2Q	0		0		0	2235	0
k . Miscellaneous (XM1002)	MIPR	Multiple	520	317	1-2Q	0		0		0	837	0
l . XM1028 Canister Cartridge	FFP	General Dynamics Ordnance Tactical Systems (G-DOTS), St. Petersburg, FL	2200	0		2500	1-2Q	0		0	4700	0
m . TACOM -ARDEC (XM1028)	MIPR	Picatinny Arsenal, NJ	100	650	1-2Q	800	1-4Q	0		0	1550	0
n . Research and Development Contract Awards		TBD	0	0		0		1943	1-2Q	Continue	1943	0
Subtotal:			136633	1902		3300		1943		Continue	143778	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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
			0	0		0		0		0	0	0
Subtotal:												
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, APG (M829E3)	MIPR	Yuma, AZ/APG, MD	15673	0		0		0		0	15673	0
b . Army Research Lab (M829E3)	MIPR	Aberdeen PG, MD	8135	0		0		0		0	8135	0
c . Miscellaneous (M829E3)	MIPR	Multiple	6568	0		0		0		0	6568	0
d . Aberdeen Test Center (XM1002)	MIPR	Aberdeen PG, MD	375	1700	1-2Q	0		0		0	2075	0
e . Miscellaneous (XM1002)	MIPR	Multiple	200	361	1-2Q	0		0		0	561	0
f . Aberdeen Test Center (XM1028)	MIPR	Aberdeen PG, MD	300	650	1-2Q	1738	1-2Q	0		0	2688	0
Subtotal:			31251	2711		1738		0		0	35700	0

ARMY RDT&E COST ANALYSIS(R-3)								February 2003				
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition						PROJECT 643		
Remarks: Testing includes all testing needed to support M829E3, MRM, XM1028 and XM1002 Cartridges.												
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 (M829E3)	MIPR	Picatinny Arsenal, NJ	10784	0		0		0		0	10784	0
b . Miscellaneous (M829E3)	MIPR	Multiple	607	0		0		0		0	607	0
c . PM-MAS (MRM)	MIPR	Multiple	1450	0		0		0		0	1450	0
d . PM-MAS (XM1002)	MIPR	Picatinny Arsenal, NJ	610	200	1-2Q	0		0		0	810	0
e . PM-MAS (XM1028)	MIPR	Picatinny Arsenal, NJ	100	200	1-2Q	336	1-4Q	0		0	636	0
Subtotal:			13551	400		336		0		0	14287	0
Remarks: Management Services also includes data line/contract costs to support Contractor Integrated Technical Information Services (CITIS) for M829E3.												
Project Total Cost:			181435	5013		5374		1943		Continue	193765	0

Schedule Profile Detail (R-4a Exhibit)							February 2003	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition			PROJECT 643	
<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>
M829E3 APFSDS-T CARTRIDGE								
Low Rate Production Decision	1Q							
Complete Production Qualification Test (PQT)	3Q							
Live Fire Test	1-4Q							
Conduct Initial Operational Test and Evaluation (IOT&E)	2-4Q							
Milestone C --Type Classification - Standard		1Q						
XM1002 TP-T CARTRIDGE								
Cartridge Design Freeze		2Q						
Procure PQT propellant/propulsion components		1-2Q						
Procure other PQT components/LAP		1-3Q						
Test PQT		2-4Q						
Milestone C --Type Classification--Standard				3Q				
XM1028 CANISTER CARTRIDGE								
Award SDD Contract	4Q							
Design and Evaluation Testing		1-4Q						
Prototype Manufacturing			1-2Q					
Qualification testing			2-3Q					
Milestone C Type Classification			4Q					
MID RANGE MUNITION								
Award Integration Contracts	3Q							
User Tactical Development	1-4Q							
120 MM LETHALITY STUDIES								
System Studies				1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

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BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition				PROJECT 64B			
COST (In Thousands)		FY 2002 Actual	FY 2003 Estimate	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	23527	18621	3917	0	25490	39237	23339	1809	0	135940
<p><u>A. Mission Description and Budget Item Justification:</u> This project will develop ammunition for the Future Combat System's Mounted Combat System (MCS). The Mid Range Munition (MRM) will provide Future Combat System MCS the ability to hit and kill all battlefield targets at extended ranges, both line of sight and beyond line of sight, increase survivability and lethality, and expand the Maneuver Task Force Commander's battle space. Global Positioning System (GPS) Anti-Jam device for munitions and platforms will allow U.S. forces to fight in environments where low cost GPS jammers exist. Development of the XM1040, 105mm anti-personnel canister cartridge responds to an urgent need of the MGS to immediately suppress dismounted infantry assaults in close/restricted terrain. This two-year development effort will leverage the technology of 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.</p> <p>This project develops the necessary changes to platform weapons and command and 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.</p> <p>This project supports the Legacy-to-Objective and Objective Transformation Paths of the Transformation Campaign Plan.</p>											
<u>Accomplishments/Planned Program</u>						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>		
Contract Award/Prototype Manufacturing (XM1040)						0	2877	3917	0		
Kinetic Energy (KE) Smart Ctg Demo						2750	0	0	0		
KE 105mm Preliminary Design (MRM)						7700	5000	0	0		
TM3 105mm Preliminary Design (MRM)						7700	9744	0	0		
GPS and Anti-Jam Development (MRM)						1000	1000	0	0		
KE 105mm Initial Prototype Development (MCS)						2977	0	0	0		
Barrel Development (MCS)						1400	0	0	0		
Totals						23527	18621	3917	0		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)							February 2003			
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition				PROJECT 64B		
B. Other Program Funding Summary	FY 2002	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 M393A3	5966	2068	7850	7834	0	0	0	0	0	23718
PAA SSN E22300: CTG, 105mm TP-T, M467A1	0	5910	9813	14689	20521	20751	0	0	0	71684
PAA SSN E67904: CTG, 105mm Mid-Range Munition (MRM)	0	0	0	0	0	0	0	20765	0	20765
PAA SSN E24400 CTG, 105mm Canister, M1040	0	0	2944	4896	1954	4743	5924	7416	0	27877
<p>C. Acquisition Strategy:These funds will initiate 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 will be competitive and developed using performance specifications leveraging the technology of the preceding XM1028, 120mm anti-personnel Canister cartridge. This project will use a streamlined acquisition strategy, keeping costs low while meeting scheduled requirements. Integrated Product Teams (IPTs) will be used. The Operational Requirements Document (ORD) for this program has been approved.</p>										

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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	3500	2Q	0		0		0	13700	0
b . Raytheon (MRM)	SS-CPFF	Tucson, AZ	6000	6800	2Q	0		0		0	12800	0
c . Electro-Radiation Inc. (MRM)	SS-CPFF	Totowa, NJ	700	700	2Q	0		0		0	1400	0
d . TACOM-ARDEC (MRM)	MIPR	Picatinny Arsenal, NJ	2610	2675	2-4Q	0		0		0	5285	0
e . Miscellaneous (MRM)	MIPR	Multiple	1190	1169	2-4Q	0		0		0	2359	0
f . XM1040	C-CPIF	TBD	0	1684	2Q	2700	1-2Q	0		0	4384	0
g . TACOM-ARDEC (XM1040)	MIPR	Picatinny Arsenal, NJ	0	843	2-4Q	350	1-4Q	0		0	1193	0
Subtotal:			20700	17371		3050		0		0	41121	0

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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
			0	0		0		0		0	0	0
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 . Yuma Proving Ground (YPG) (MRM)	MIPR	Yuma, AZ	100	300	2-4Q	0		0		0	400	0
b . Army Evaluation Center (AEC) (MRM)	MIPR	Aberdeen, MD	75	100	2Q	0		0		0	175	0
c . Army Research Lab (ARL) (MRM)	MIPR	Aberdeen, MD	350	200	2-4Q	0		0		0	550	0
d . Yuma Proving Ground (YPG) (XM1040)	MIPR	Yuma, AZ	0	150	3-4Q	478	1-2Q	0		0	628	0
Subtotal:			525	750		478		0		0	1753	0

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BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes					PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition					PROJECT 64B		
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	300		0		0		0	2602	0
b . PM-MAS (XM1040)	Multiple	Picatinny Arsenal, NJ	0	200	1-4Q	389	1-4Q	0		0	589	0
Subtotal:			2302	500		389		0		0	3191	0
Project Total Cost:			23527	18621		3917		0		0	46065	0

Schedule Profile Detail (R-4a Exhibit)							February 2003	
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition			PROJECT 64B	
<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>
Preliminary Design Reviews (KE/TM3) (MRM)	3Q							
Airframe and Propulsion Compulsion Tests (KE/TM3) (MRM)	4Q	2Q						
Seeker and Algorithm Development (MRM)	4Q							
Test Hardware Manufacturing (MRM)		2-4Q						
Preliminary Tests (MRM)		3-4Q						
Guide to Hit Test (MRM)		4Q						
Analog to Digital Coinversion (GPS)		4Q	1Q					
Contract Award (XM1040)		2Q						
Engineering Design Tests (XM1040)		3-4Q						
Prototype Manufacturing (XM1040)			1-3Q					
Qualification Testing (XM1040)			3Q					
Milestone C Type Classification (XM1040)			4Q					

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BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition				PROJECT 694		
COST (In Thousands)	FY 2002 Actual	FY 2003 Estimate	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	0	2858	1958	0	0	0	0	0	0	4816
<p><u>A. Mission Description and Budget Item Justification:</u> 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. FY 2003 and 2004 funds the development of the 25mm M910E1 Target Practice, Discarding Sabot w/Tracer (TPDS-T) cartridge. The 25mm M910E1 will provide 0-2500 meter ballistic similitude to the current tactical round, 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.</p> <p>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 many other program arrangements and agreements.</p> <p>This project supports the Legacy-to-Objective and Objective Transition Paths of the Transformation Campaign Plan (TCP).</p>										
<u>Accomplishments/Planned Program</u>						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	
Contract Award/Prototype Design and Development (25mm M910E1)						0	2858	0	0	
Contract Award/Option Production Qualification Test (25mm M910E1)						0	0	1958	0	
Totals						0	2858	1958	0	

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

February 2003

BUDGET ACTIVITY

4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE

0603639A - Tank and Medium Caliber Ammunition

PROJECT

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<u>B. Other Program Funding Summary</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>	<u>To Compl</u>	<u>Total Cost</u>
PAA SSN E08210 , M919 25mm KE (Bradley)	29700	21076	491	0	0	0	0	0	0	51267
PAA SSN E08204, M910 25mm TPDS-T	20661	16694	443	40	0	0	0	0	0	37838
PAA SSN E08203 M793 25mm TP-T	10397	28448	7878	5974	6005	13987	15377	16069	Continuing	Continuing
PAA SSN E08211, M910E1 25mm TPDS-T	0	0	0	39190	8620	30176	29000	28559	Continuing	Continuing

C. Acquisition Strategy: These funds will initiate 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 will be competitive. This project will use a streamlined acquisition strategy using performance specifications to keep costs low while meeting schedule requirements. Integrated Product Teams (IPTs) will be used.

ARMY RDT&E COST ANALYSIS(R-3)									February 2003			
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 . TBD (M910E1)	FFP	TBD	0	2365	3Q	958	1-2Q	0		0	3323	0
b . ARDEC (M910E1)	Picatinny Arsenal, N.J.		0	293	2-4Q	450	1-4Q	0		0	743	0
Subtotal:			0	2658		1408		0		0	4066	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(R-3)									February 2003			
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)	Yuma AZ.		0	0		350	2-3Q	0		0	350	0
Subtotal:			0	0		350		0		0	350	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
Subtotal:			0	200		200		0		0	400	0
Project Total Cost:			0	2858		1958		0		0	4816	0

Schedule Profile Detail (R-4a Exhibit)						February 2003		
BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes				PE NUMBER AND TITLE 0603639A - Tank and Medium Caliber Ammunition			PROJECT 694	
<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>
25MM M910E1								
Contract Award		3Q						
Engineering Design Tests		2-3Q						
Prototype Manufacturing		3-4Q						
Qualification Testing			1-3Q					
Milestone C Type Classification			4Q					