

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)								February 2006	
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>				PE NUMBER AND TITLE <b>0604814A - Artillery Munitions - EMD</b>				PROJECT <b>708</b>	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
708 XM982 PROJECTILE	137391	114709	102554	62841	77969	42867	2024	0	760819
<p><b><u>A. Mission Description and Budget Item Justification:</u></b> This project funds two programs, the Excalibur XM982 Projectile and the Spin Stabilized-Sensor Fuzed Munition (SS-SFM).</p> <p>Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and offer significant reduction in collateral damage in most of all urban environments. The Excalibur will be interoperable with the M777A2 Lightweight 155mm howitzer (LW155), the M109A6 (Paladin) howitzer, and the Future Combat System (FCS) Non-Line of Sight Cannon (NLOS-C). Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is also highly resistant to GPS jamming. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development in accordance with an established Project Agreement.</p> <p>The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities and lower costs as technology matures. The Block Ia-1 will be fielded to the CFLCC in Iraq to fulfill an Urgent Need Request. Additional fielding in early FY07 is planned to the LW155 howitzer equipped Stryker Brigade Combat Team #5 being formed in Hawaii. Block Ia-2 delivered in FY08 will provide greatly increased range to LW155, Paladin and FCS Cannon forces Army-wide when fielded. The third planned increment, Block Ib, will be fielded in FY11 and will provide a further performance improvement while significantly lowering unit costs.</p> <p>FY04 and FY05 also included funding for SS-SFM compliance testing in accordance with the Joint Ballistics Memorandum of Understanding (JBMOU). SS-SFM's are advanced "fire and forget" smart artillery projectiles that can be used in all 155mm artillery systems. SS-SFM's use one or more sensors to defeat self-propelled artillery and lightly armored targets in all weather and environmental conditions.</p>									
<b><u>Accomplishments/Planned Program</u></b>						<b><u>FY 2005</u></b>	<b><u>FY 2006</u></b>	<b><u>FY 2007</u></b>	
Complete Block Ia airframe structure development and projectile system level integration efforts to conduct contractor development testing, and initiate Block Ib development.						27700	19663	14096	
Continue guidance unit integration, gun hardening, tactical telemetry, systems software development, and programmed maneuver flight demonstration and support system integration and initiate Block Ia development.						42171	22655	18092	
Complete Block Ia Systems and Specialty Engineering activities, to include specification development, Cost As Independent Variable (CAIV), program metric tracking, and conduct modeling of lethality, effectiveness, and aeroballistics, and requirements analysis to incorporate a tactical telemetry system and initiate Block Ib development.						23116	24639	20328	
Complete Unitary warhead development, to include structure penetration, fragmentation testing, validation of modeling, and initiate Block Ib development.						9554	1752	1730	
Complete Platform Integration efforts for Block Ia and initiate efforts for Block Ib including design and build of prototype hardware for Enhanced Platform Integration Kit and Portable Inductive Artillery Fuze Setter (EPIAFS) and development of Advanced Field Artillery						8474	8702	5170	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)			February 2006
BUDGET ACTIVITY	PE NUMBER AND TITLE		PROJECT
<b>5 - System Development and Demonstration</b>	<b>0604814A - Artillery Munitions - EMD</b>		<b>708</b>
Tactical Direction System (AFATDS) integration.			
Procure and test Development Test hardware in accordance with for Contractor Development Master Test Plan and Test and Evaluation Master Plan (TEMP), less the operational assessment efforts (next line).	13650	31368	31086
Procure production representative projectiles and conduct Limited User Test (LUT) and Independent Operational Test & Evaluation (IOTE) efforts.	3620	5930	12052
SS-SFM JBMOU Testing	9106	0	0
Total	137391	114709	102554

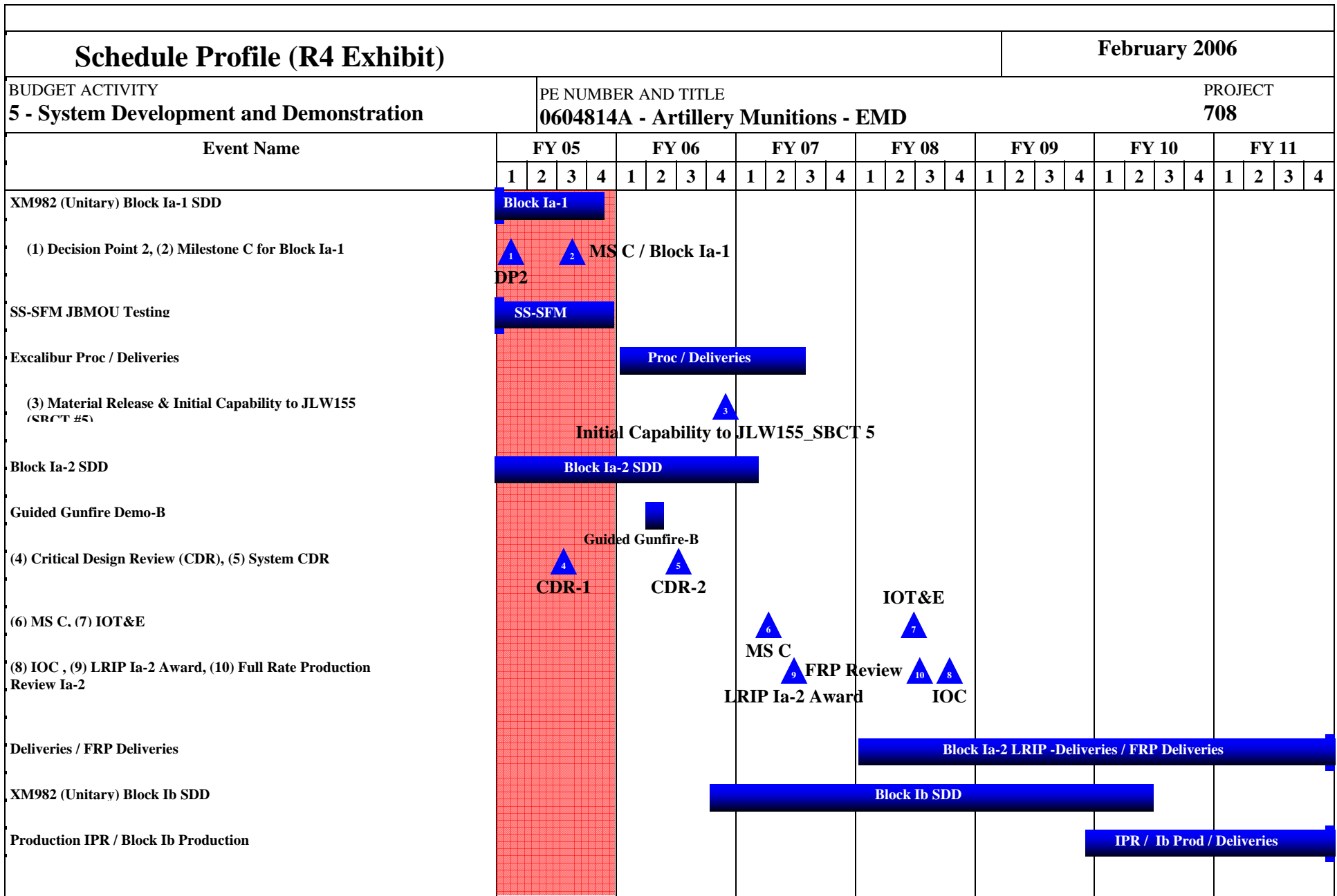
<b>ARMY RDT&amp;E BUDGET ITEM JUSTIFICATION (R2 Exhibit)</b>							<b>February 2006</b>		
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>				PE NUMBER AND TITLE <b>0604814A - Artillery Munitions - EMD</b>				PROJECT <b>708</b>	
<b><u>B. Program Change Summary</u></b>				FY 2005	FY 2006	FY 2007			
Previous President's Budget (FY 2006)				133167	113368	99127			
Current BES/President's Budget (FY 2007)				137391	114709	102554			
Total Adjustments				4224	1341	3427			
Congressional Program Reductions					-503				
Congressional Rescissions					-1156				
Congressional Increases					3000				
Reprogrammings				4224					
SBIR/STTR Transfer									
Adjustments to Budget Years						3427			
<b><u>C. Other Program Funding Summary</u></b>									
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Procurement Ammunition Army: Proj 155mm Extended Range: XM982-U Excalibur: E80103	23889	29261	22971	29469	35075	65483	62664	1159509	1428321
OPA2: Enhanced Portable Inductive Fuze Setter (E-PIAFS): AD3260	1943	6679	7441	7572	2596	0	0	0	26231
<p>Comment:</p>  <p><b><u>D. Acquisition Strategy</u></b> Excalibur is a family of 155mm Precision Guided Extended Range Munitions. A competitive source selection awarded an Engineering and Manufacturing Development (E&amp;MD) contract for the initial block, with options for the other block's development and all Low Rate Initial Production quantities (LRIP). In coordination with the Defense Acquisition Executive, the Army has implemented an incremental development process to provide for early fielding of projectiles to the Stryker Brigade Combat Team #5. In FY05 the program responded to an Urgent Needs Statement to provide an initial capability to MNC-I in FY06. The Product Manager's Office is currently managing a contract option for the Block Ia-1 LRIP concurrent with the balance of System Development and Demonstration (SDD) for the Block Ia-2 configuration. The initial increment (Block Ia-1) will meet the most critical Operational Requirement Document (ORD) Block Ia Key Performance Parameter (KPP) requirements. The second increment (Block Ia-2)) will meet all of the ORD Block Ia KPP requirements by the fourth quarter FY08. The Product Manager's office intends to award the third increment (Block Ib) SDD in FY07, which will meet all of the ORD Block Ib KPP requirements and fielded in FY11.</p> <p>The SS-SFM effort (funded in FY04 and FY05) conducted compliance testing, safety certification and firing table development, but no procurement of projectiles for the</p>									

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)		February 2006
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604814A - Artillery Munitions - EMD</b>	PROJECT <b>708</b>
inventory.		

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
<b>5 - System Development and Demonstration</b>			<b>0604814A - Artillery Munitions - EMD</b>							<b>708</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Excalibur Block Ia Development	C/CPAF	Raytheon Missile System,Tucson, AZ	227981	82683	1-4Q	64305	1-4Q	42455	1-4Q	Continue	0	Continue
Award Fee on Excalibur Development Contract	N/A	Raytheon Missile System,Tucson, AZ	11083	14428	2-4Q	10081	2-4Q	3006	2-4Q	Continue	Continue	Continue
TCM Merger Assessment	FP	Bofors Defence, Karlskoga, Sweden	14430	0		0		0		0	14430	0
Platform Integration-Systems Contractor	CPAF	TBS	150	0	1Q	500	1Q	600		Continue	Continue	0
Misc Support Contracts	Various	Various	1397	369	1-2Q	350	1-2Q	400	1-2Q	Continue	Continue	0
Platform Integration/Fire Control - AFATDS	SS/CPIF	Raytheon AFATDS, Ft Wayne, IN	588	3457	1Q	948	1-2Q	500	1-2Q	Continue	Continue	0
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch, Picatinny, NJ/Aberdeen, MD	820	441	1Q	463	1Q	500	1Q	Continue	Continue	0
Platform Integration LW155 M777A2	CPIF	BAE, Burlington Vt.	3739	5000	2Q	3250	1-2Q	0	1-2Q	0	11989	0
SS-SFM Test Projectiles	C/FFP	Various	5084	5731	2Q	0		0		0	10815	0
Excalibur Block Ib Development	C/CPAF	TBS	0	0		0		24000	2Q	Continue	Continue	0
Govt IPT Support Platform Integration Development	MIPR	ARDEC, Picatinny, NJ	0	1120	1-4Q	1730	1-4Q	820	1-4Q	Continue	Continue	0
Platform Integration & EPIAFS Software Development	MIPR	Navy, Surface Warfare Center, MD	0	80	1-4Q	150	2Q	0	2Q	Continue	Continue	0
Subtotal:			265272	113309		81777		72281		Continue	Continue	Continue
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	In House	PM Excalibur ,	12077	4388	1-4Q	4147	1-4Q	4354	1-4Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604814A - Artillery Munitions - EMD							PROJECT 708		
		Picatinny, NJ										
Government IPT Support-Excalibur XM982	MIPR	ARDEC, Picatinny, NJ	22015	9369	1-4Q	10349	1-4Q	8279	1-4Q	Continue	Continue	0
Government TCM Support	MIPR	ARDEC, Picatinny, NJ	910	0		0		0		0	910	0
Government Support- Ft Sill	MIPR	Ft. Sill, OK	2254	173	1Q	400	1-2Q	400	1-2Q	Continue	Continue	0
Paladin Platform Integration	MIPR	PM Paladin Picatinny, NJ	650	0		0		0		0	650	0
Modeling and Structural Development	MIPR	Army Research Labs, Adelphi, MD	3521	1111	1-2Q	1344	1-4Q	850	1-4Q	Continue	Continue	0
Govt IPT Support Platform Integration	MIPR	ARDEC, Picatinny, NJ	5591	0		0		0		0	5591	0
Milestone Support	SS/FP	Camber, Alexandria, VA	820	220	2Q	250	2Q	142	2Q	Continue	Continue	0
Technical Spt Contract for Platform Integration	SS/FP	Camber, Dallas, TX	449	122	1-2Q	125	1-2Q	128	1-2Q	Continue	Continue	0
Fire Control development support	MIPR	Ft Monmouth, NJ/Ft Sill, OK	410	221	1-2Q	252	1-2Q	87	1-2Q	Continue	Continue	0
Miscellaneous Support	MIPR	Various	625	250	1-4Q	500	1-4Q	500	1-4Q	Continue	Continue	0
Platform Integration Software Support	MIPR	Navy Surface Warfare Center, MD	390	0	1-4Q	0	2Q	0		0	390	0
PM CAS SS-SFM	In-House	PM CAS, Picatinny, NJ	250	450	1-4Q	0		0		0	700	0
Government IPT Support - SS-SFM	MIPR	ARDEC, Picatinny, NJ	0	1625	1-3Q	0		0		0	1625	0
Subtotal:			49962	17929		17367		14740		Continue	Continue	0
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
TECOM Test Range	MIPR	YPG, Yuma, AZ	8575	944	1-4Q	4341	1-4Q	8755	1-4Q	Continue	Continue	0
Test Instrumentation and Analysis	MIPR	Army Research Labs, Adelphi, MD	2502	400	1-4Q	350	1-4Q	450	1-4Q	Continue	Continue	0
Telemetry Support	SS/FF	Physical Science	1496	150	1Q	350	2Q	350	2Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>			PE NUMBER AND TITLE <b>0604814A - Artillery Munitions - EMD</b>								PROJECT <b>708</b>	
		Laboratories (PSL), Las Cruces, NM										
Telemetry Support	MIPR	ARDEC, Picatinny, NJ	5041	2534	1-4Q	4743	1-4Q	2200	1-4Q	Continue	Continue	0
Telemetry Cryptographic Support	MIPR	Ft. Huachuca, AZ	138	0	1Q	0		0		0	138	0
Tri-Service Software Assessment	MIPR	OSD, Wash, DC	61	0		0		0		0	61	0
Operational Test Support	MIPR	ATEC, Alexandria, VA	320	239	2Q	4831	2Q	2778	2Q	Continue	Continue	0
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office, Huntsville, AL.	300	300	1-2Q	400	1-2Q	400	1-2Q	Continue	Continue	0
ARDEC Testing	MIPR	ARDEC, Picatinny, NJ	1075	90	1-4Q	350	1-4Q	350	1-4Q	Continue	Continue	0
Test Gun Equipment	MIPR	Watervliet Arsenal, NY	3376	196	1-2Q	200	1-2Q	250	1-2Q	Continue	Continue	0
SS-SFM Testing	MIPR	Yuma Proving Grounds, Yuma, AZ	1000	1300	1-3Q	0		0		0	2300	0
Subtotal:			23884	6153		15565		15533		Continue	Continue	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									
Remarks: Not Applicable												
<b>Project Total Cost:</b>			<b>339118</b>	<b>137391</b>		<b>114709</b>		<b>102554</b>		<b>0</b>	<b>49599</b>	<b>0</b>



Schedule Detail (R4a Exhibit)						February 2006	
BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>			PE NUMBER AND TITLE <b>0604814A - Artillery Munitions - EMD</b>			PROJECT <b>708</b>	
<u>Schedule Detail</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Decision Point 2	1Q						
Guidance Soft Recovery Testing/Sys. Reliability Growth	1-4Q	1-4Q	1-3Q				
Guided Gunfire A (Tactical Guidance System Testing)	1Q						
Milestone C for Block Ia-1	3Q						
Guided Gunfire B (Initial Full System Test Firing)	4Q	2Q					
System Critical Design Review (CDR) -1	3Q						
System Final CDR -2		3Q					
Inductive Fuze Setter Preliminary Design Review (PDR)							
Inductive Fuze Setter CDR	4Q						
Milestone C for Block Ia-2			2Q				
Initial Capability to JLW155			1Q				
Award LRIP II Contract			2Q				
Award Block Ib SDD Contract			2Q				
System IOT&E				2Q			
SS-SFM JBMOU Testing	1-4Q						
Full Material release & IOC 1a				4Q			
MS C Block 1b					4Q		
Block 1b Production Start						1Q	
FAT Block 1b							2Q
Material Release Block 1b							4Q

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)									February 2006		
BUDGET ACTIVITY			PE NUMBER AND TITLE						PROJECT		
5 - System Development and Demonstration			0604814A - Artillery Munitions - EMD						708		
Funding in \$000											
Program			FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
XM982 Excalibur				10769	2944						
Total Termination Liability Funding:				10769	2944						