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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605450A: Joint Air-to-Ground Missile (JAGM)							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	114.817	126.775	130.340	0.000	130.340	127.534	136.692	109.476	57.084	Continuing	Continuing
JA6: JOINT AIR-TO-GROUND MISSILE (JAGM)	114.817	126.775	130.340	0.000	130.340	127.534	136.692	109.476	57.084	Continuing	Continuing
A. Mission Description and Budget Item Justification											
The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides advanced line-of-sight (LOS) and beyond-line-of-sight (BLOS) capabilities, including precision point and fire-and-forget (active and passive) seeker targeting technologies; increased range; and increased lethality against soft and hardened moving and stationary targets. The system will be used with fixed-wing aircraft, rotary-wing aircraft, and unmanned aircraft systems (UAS). The JAGM System will replace aviation-launched TOW, the HELLFIRE family of missiles, and the Navy's Maverick family of missiles. JAGM is a joint program with the Army, Navy and USMC that addresses rotary/fixed wing and UAS requirements. The Army is funding missile development and integration to Army unique platforms with the Navy funding their platform integration requirements. The Super Hornet (F/A 18E/F), the Apache (AH-64D), and the Super Cobra (AH-1Z) are Milestone C threshold platforms with integration occurring no later than (NLT) the end of FY13 and Initial Operational Capability (IOC) beginning NLT the end of FY16. Other threshold platforms are the Seahawk (MH-60R) and Extended Range Multi Purpose (ERMP) UAS, and an Army Light Armed Scout Helicopter. MH-60R integration occurs NLT FY14. Integration timelines for ERMP and the Light Armed Scout Helicopter are notional and will be updated prior to Milestone B as those programs mature. JAGM will increase the Warfighter's operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced heavy/light armored vehicles, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers, artillery systems, and radar/air defense systems. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. JAGM supports more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon. The warhead is designed for high performance against both armored and non-armored targets. It also allows flexibility in the location of resupply on the battlefield, thereby minimizing the logistics burden of the combat force. The JAGM System includes missile, trainers, containers, support equipment, and launcher MODS. Six prototype missiles per contractor will be procured to support Technology Development.											

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B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	118.125	127.439	130.454	0.000	130.454
Current President's Budget	114.817	126.775	130.340	0.000	130.340
Total Adjustments	-3.308	-0.664	-0.114	0.000	-0.114
• Congressional General Reductions		-0.664			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-3.308	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.114	0.000	-0.114

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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	114.817	126.775	130.340	0.000	130.340	127.534	136.692	109.476	57.084	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides advanced line-of-sight (LOS) and beyond-line-of-sight (BLOS) capabilities, including precision point and fire-and-forget (active and passive) seeker targeting technologies; increased range; and increased lethality against soft and hardened moving and stationary targets. The system will be used with fixed-wing aircraft, rotary-wing aircraft, and unmanned aircraft systems (UAS). The JAGM System will replace aviation-launched TOW, the HELLFIRE family of missiles, and the Navy's Maverick family of missiles. JAGM is a joint program with the Army, Navy and USMC that addresses rotary/fixed wing and UAS requirements. The Army is funding missile development and integration to Army unique platforms with the Navy funding their platform integration requirements. The Super Hornet (F/A 18E/F), the Apache (AH-64D), and the Super Cobra (AH-1Z) are Milestone C threshold platforms with integration occurring no later than (NLT) the end of FY13 and Initial Operational Capability (IOC) beginning NLT the end of FY16. Other threshold platforms are the Seahawk (MH-60R) and Extended Range Multi Purpose (ERMP) UAS, and an Army Light Armed Scout Helicopter. MH-60R integration occurs NLT FY14. Integration timelines for ERMP and the Light Armed Scout Helicopter are notional and will be updated prior to Milestone B as those programs mature. JAGM will increase the Warfighter's operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced heavy/light armored vehicles, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers, artillery systems, and radar/air defense systems. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. JAGM supports more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon. The warhead is designed for high performance against both armored and non-armored targets. It also allows flexibility in the location of resupply on the battlefield, thereby minimizing the logistics burden of the combat force. The JAGM System includes missile, trainers, containers, support equipment, and launcher MODS. Six prototype missiles per contractor will be procured to support Technology Development.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1						8.232	0.000	0.000	0.000	0.000	
Software Simulation Algorithm Maturity											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605450A: Joint Air-to-Ground Missile (JAGM)	PROJECT JA6: JOINT AIR-TO-GROUND MISSILE (JAGM)			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #2 Integrated Baseline Review (IBR)	11.174	0.000	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #3	50.713	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Design Verification Test/Engineering Development Test (EDT) FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO					
Program #4 System Requirement Review (SRR) FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	44.698	0.000	0.000	0.000	0.000

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #5	0.000	6.000	0.000	0.000	0.000
Source Selection Evaluation Board (SSEB)					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #6	0.000	23.075	0.000	0.000	0.000
Preliminary Design Review (PDR)					
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #7		0.000	35.205	0.000	0.000	0.000
Prototype Flights						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						
Program #8		0.000	5.210	0.000	0.000	0.000
Apache Integration						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #9		0.000	7.572	0.000	0.000	0.000
Milestone B						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						
Program #10		0.000	7.180	0.000	0.000	0.000
Software Simulation Algorithm Maturity						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #11	0.000	38.984	0.000	0.000	0.000
Design Verification Test/Engineering Development Test (EDT)					
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					
Program #12	0.000	3.549	0.000	0.000	0.000
Small Business Innovative Research (SBIR)/Small Business Technology Transfer Program (STTR)					
FY 2009 Accomplishments:					
FY 2009					
FY 2010 Plans:					
FY 2010					
FY 2011 Base Plans:					
FY 2011 Base					
FY 2011 OCO Plans:					
FY 2011 OCO					

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #13		0.000	0.000	6.297	0.000	6.297
Software Simulation Algorithm Maturity						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						
Program #14		0.000	0.000	45.286	0.000	45.286
Design Verification Test/Engineering Development Test (EDT)						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #15		0.000	0.000	10.187	0.000	10.187
Apache Integration						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						
Program #16		0.000	0.000	5.047	0.000	5.047
Milestone B						
FY 2009 Accomplishments:						
FY 2009						
FY 2010 Plans:						
FY 2010						
FY 2011 Base Plans:						
FY 2011 Base						
FY 2011 OCO Plans:						
FY 2011 OCO						

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B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #17 Development Activities to Support Critical Design Review (CDR) FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.000	0.000	38.518	0.000	38.518
Program #18 Enter Engineering Manufacturing, and Development (EMD) Phase FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.000	0.000	25.005	0.000	25.005

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<u>B. Accomplishments/Planned Program (\$ in Millions)</u>														
										FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Accomplishments/Planned Programs Subtotals										114.817	126.775	130.340	0.000	130.340
<u>C. Other Program Funding Summary (\$ in Millions)</u>														
<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>			
• Ord. #1: <i>Joint Air-to-Ground Missile (JAGM) SSN: C70302</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.508	96.442	Continuing	Continuing			
• Ord. #2: <i>Navy (RDTE) Joint Air-to-Ground Missile (JAGM)</i>	54.568	77.412	100.846	0.000	100.846	120.044	126.481	131.679	63.622	Continuing	Continuing			
• Ord. #3: <i>Navy (Procurement) Joint Air-to-Ground Missile (JAGM)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	32.878	143.865	Continuing	Continuing			
<u>D. Acquisition Strategy</u>														
<p>The JAGM System is an ACAT 1D Joint Army/Navy/USMC program with the Army designated as lead service. The JAGM system is a common air-to-ground precision guided missile for use by Joint Service manned and unmanned aircraft to destroy high-value stationary, moving, and relocateable land and naval targets. JAGM provides current and future aviation platforms a common, multi-mode weapon, with reactive targeting capability, which satisfies the sum of needs across the joint platforms and eliminates the requirement for separate upgrades to multiple existing missile systems. The JAGM program has four phases: a TD phase including system integration and preliminary design review (PDR), an Engineering Manufacturing, and Development (EMD) phase, a Production & Deployment (PD) phase, and an Operations & Support phase. Following solicitation and formal source selection, the government competitively awarded Fixed Price Incentive (FPI) contracts (with full cost reporting) to two contractors for the 27-month TD phase. The TD phase culminates with PDR and competitive fly-off of the contractor's prototype missiles. Approximately 22-months after TD phase contract award, TD contractors will be asked to submit proposals for the EMD and Low Rate Initial Production (LRIP) phases. A second source selection process will evaluate the contractor's TD performance and proposals for the EMD and PD phases. Offeror's plans to facilitate competition during the PD phase will be considered during the evaluation process for the EMD contract. The government plans to award a single contract for the 48-month EMD phase, including provisions for procurement of long lead-time items to support the follow-on PD phase. Fixed Price Type contracts are planned for the PD phase (LRIP and full rate production (FRP)).</p>														
<u>E. Performance Metrics</u>														
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.														

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010																																																																																																																									
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605450A: Joint Air-to-Ground Missile (JAGM)				PROJECT JA6: JOINT AIR-TO-GROUND MISSILE (JAGM)					
Support (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
Subtotal			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
Remarks													
Test and Evaluation (\$ in Millions)													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Gov Agencies	C/Various	Various Location could not be determined.	0.000	3.069		5.640		0.000		5.640	Continuing	Continuing	0
Cost Category Item is empty.	C	Nothing entered for Activity and Location.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																															
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Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract																																																															
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost																																																																		
System Eng/ Project Management	C/Various	Various Location could not be determined.	0.000	8.477		7.793		0.000		7.793	Continuing	Continuing	0																																																															
Subtotal			0.000	8.477		7.793		0.000		7.793			0.000																																																															
Remarks																																																																												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army									DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0605450A: Joint Air-to-Ground Missile (JAGM)				PROJECT JA6: JOINT AIR-TO-GROUND MISSILE (JAGM)				
		Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	126.775		130.340		0.000		130.340			0.000
Remarks												

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Preliminary Design Review (PDR)						#																						
Milestone B							#																					
Critical Design Review													#															
Advance Procurement 1																				#								
Milestone C																						#						
Low Rate Initial Production 1																								#				
Advance Procurement 2																									#			

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army			DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Review (PDR)	2	2010	2	2010
Milestone B	4	2010	4	2010
Critical Design Review	1	2012	1	2012
Advance Procurement 1	2	2014	2	2014
Milestone C	4	2014	4	2014
Low Rate Initial Production 1	1	2015	1	2015
Advance Procurement 2	2	2015	2	2015

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Exhibit R-5, RDT&E Termination Liability: PB 2011 Army								DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>				PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
Cost (\$ in Millions)	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	
Program Termination Liability	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Notes

The JAGM Prime Contract incorporates the "Limitation of Government's Obligation" (DFARS 252.232-7007) to limit the Government's liability. For the JAGM program, the "Limitation of Government's Obligation" clause limits the Government's financial liability per the contract to those funds placed on contract plus costs associated with the orderly termination of contractual actions.

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