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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 0604647A: Non-Line of Sight Cannon							
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	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
F58: NON LINE OF SIGHT CANNON	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
A. Mission Description and Budget Item Justification This Non-Line of Sight Cannon (NLOS-C) program contained the development effort associated with NLOS-C unique work. The Manned Ground Vehicle (MGV) common sub components for NLOS-C and MGV were included in the MGV PE0604660 Project (FC1). All NLOS-C efforts were stopped in July 09 and terminated in December 09 in accordance with the direction provided by the Department of Defense. The NLOS-C was to be the Army's first fully automated 155-mm howitzer, 38 caliber cannon, that was to provide an automated, 24/7, all-weather, precision fire support to the Future Combat Systems (FCS) Brigade Combat Team (BCT) commander. It was to be organic to the FCS BCT and provide networked, extended-range (30kms), responsive and sustained precision attack of point and area targets in support of the BCT's mission. The NLOS-C was to pride close support and destructive fires for tactical standoff engagement during both offensive and defensive operations in concert with line-of-sight, beyond line-of-sight and other non line-of sight (NLOS), external and joint capabilities in combat scenarios spanning the spectrum of ground combat. The NLOS Cannon's fully automated ammunition handling system and real-time digital operating environment would have enabled two soldiers to perform tasks that normally require four soldiers on current force systems. The cannon was designed to be able to move rapidly, stop quickly, and deliver lethal first round effects on target in record time largely due to the fully automated gun laying, ammunition handling, and fuse setting of all current and precision guided 155mm artillery rounds. The NLOS-C would have had a multiple round simultaneous impact (MRSI) capability, unmatched sustained rate of fire of six-rounds per minute and precision fires, through the XM982 Excalibur, to provide unprecedented effects on target from a smaller number of systems.											

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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	89.545	58.216	0.000	0.000	0.000
Current President's Budget	87.038	47.964	0.000	0.000	0.000
Total Adjustments	-2.507	-10.252	0.000	0.000	0.000
• Congressional General Reductions		-10.252			
• 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	-2.507	0.000			
Change Summary Explanation					
Change Summary Explanation: FY10: Congress decrement a portion of the Special and Other Termination costs					

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>				<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
F58: <i>NON LINE OF SIGHT CANNON</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Not applicable for this item.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  SYSTEM ENGINEERING AND PROGRAM MANAGEMENT FY09 - Completed all NLOS-C specific design and integration activities required to support NLOS-C and MGVS PDR in 2nd quarter FY09 and also SoS PDR in 3rd Qtr FY09. The PDR covered all system and subsystems requirements for the integration and testing of the SDD (threshold configuration) NLOS-C prototypes for delivery in 2011. Conducted the PDR of Core Threshold design and CDR of Initial Production to achieve delivery and fielding of NLOS-C to the Army Evaluation Task Force (AETF) in 2010. Began the Critical Design Activities for the FCS Core NLOS-C (threshold configuration) segment of the program.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							43.551	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
FY 2011 OCO Plans: FY 2011 OCO						
Program #2  PROTOTYPE VEHICLE FY09 - Completed fabrication, integration, and delivered two complete 24-ton prototype NLOS-C systems (P5), (P3), for developmental testing in, and two partial vehicles (P4),(P6) chassis only. Completed mobility integration and check-out of P1and mission module integration and check-out of P3 in April. Based upon the stop work order the remaining 24 and 30 Ton NLOS-C Platforms were stored until further guidance to continue or termination is provided.  FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010  FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO		19.256	0.000	0.000	0.000	0.000
Program #3  SYSTEM TEST & EVAULATION (TEST) FY09 - Began NLOS-C early prototype developmental testing at Yuma Proving Grounds for mobility, lethality, weapon accuracy, environmental, and safety. P3 testing began at YPG (mobility) and P5 testing at WSMR Electromagnetic Environmental Effects (E3). System Integration Lab (SIL): integration and certification for Independent Validation and Verification (IV2) integration and test. P4		5.334	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
were used for integration and sub-system software/performance testing at the PE SIL in Detroit and the SIF at Minneapolis.  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  MISSION SOFTWARE FY09 - Software: Continued NLOS-C Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Delivered staged delivery drops to HW integration. Completed re-planning of Software Build 3 (SWB3) development activities - moved to beyond FY09 due to funding reduction adjustment. NLOS-C Build 3 software provided fire control input revisions and enhancements to Build 2, complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.  FY 2009 Accomplishments: FY 2009		4.397	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
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #5  Other Terminations Costs: These funds are for costs that are currently not covered by the Government and are required by FAR part 31. These costs include but are not limited to Allowable Fee, Cost incurred, but not billed to the FAR contract, Unexpired leases, Alterations/restorations required by leases, and Loss of useful value of capital property. These costs were identified in LSI's Contract Funds Status Report (CFSR) dated 30 July 2009.  FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010  FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO	2.500	0.000	0.000	0.000	0.000
Program #6	12.000	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
Special termination liability costs are paid to the contractor and subcontractors as per FAR 31.205 for; Severance Pay, Reasonable costs continuing after termination, Settlement of expenses, and costs to return field service personnel from remote or liaison sites.  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 #7  Disposition of Terminated Material FY10- Assuming Termination direction is given this is the estimated cost to develop, commission and manage a detailed Integrated Product Team (IPT) for dispositioning all Hardware and Software both designed and built under the SDD contract and all items furnished by the government (GFX). These funds also include the costs of packaging, transporting, and short and long term storage of selected materials IAW FAR 45/49.  FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010		0.000	46.621	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	
FY 2011 Base Plans: FY 2011 Base											
FY 2011 OCO Plans: FY 2011 OCO											
Program #8 Small Business Innovative Research/Small Business Technology Transfer Programs.						0.000	1.343	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											
Accomplishments/Planned Programs Subtotals						87.038	47.964	0.000	0.000	0.000	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: 0604646A Non Line of Sight	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
- Launch System	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #2: 0604660A FCS Manned Grd Vehicles & Common Grd Vehicle Components											
• Ord. #3: 0604661A FCS System of Systems Engr & Program Management	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #4: 0604662A FCS Reconnaissance (UAV) Platforms	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
• Ord. #5: 0604663A FCS Unmanned Ground Vehicles	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #6: 0604664A FCS Unattended Ground Sensors	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #7: 0604665A FCS Sustainment & Training R&D	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: 0604666A Spin Out Technology/Capability Insertion	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: 0605625A Manned Ground Vehicle	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	0	7,259.443
• Ord. #10: WTCV G86100 FCS Core Program	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: WTCV G86200 FCS Spin Out Program	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing

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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>											
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Incr 2</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

The Army awarded the original FCS Contract to the Boeing Company, 30 May 2003 as the Lead System Integrator (LSI). The contract was definitized 10 Dec 2003. The LSI contracted BAE ASD (Armored Systems Develop) as the One Team Partner to execute the NLOS-C portion of the SDD contract. The initial plan was to provide eight (8) vehicle platforms which were to be produced cooperatively by BAE and GDLS corporations because of the common chassis components. During FY09, FCS completed the systems of systems platform Preliminary Design Reviews (PDRs). In July 09 the NLOS-C portion of the SDD contract was placed on stop work after completion of all SoS PDR activities and was terminated in December 09. The contract prototype and component assets will be dispositioned in accordance with FAR-45/29 ensuring the most cost efficient method to the government.

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<b><u>E. Performance Metrics</u></b> 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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