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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 0604646A: Non-Line of Sight Launch System							
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	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	593.537
F72: NON LINE OF SIGHT LAUNCH SYSTEM	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>This project funds the System Development and Demonstration (SDD) for the Non-Line of Sight Launch System (NLOS-LS), which is part of the Brigade Combat Team (BCT) modernization program. NLOS-LS has been called upon to deliver its enabling lethality capabilities to the Infantry Brigade Combat Teams (IBCTs). NLOS-LS consists of the Precision Attack Missile (PAM) and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, communications and software for remote, unmanned operations. This project focuses on the development of a materiel solution to meet the NLOS-LS operational need as delineated in the Future Combat System (FCS) Operational Requirements Document (ORD) and Increment 1 Early-Infantry Brigade Combat Team (E-IBCT) Capabilities Production Document (CPD). The PAM will be vertically launched directly from the CLU based on fire missions received via the BCT network and will be capable of being updated in-flight via on-board radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. The PAM will have Automatic Target Acquisition (ATA) capability which can be upgraded in future versions.NLOS-LS, delivered during the Increment 1 timeframe, will equip Current Forces with an Advanced Field Artillery Tactical Data System (AFATDS) command based unmanned precision attack missile system. Increment 2 will address objective requirements to meet the Capability Development Document (CDD). These efforts will include Insensitive Munition requirements, incorporation of the Handheld, Manpack and Small Form Fits(HMS)-J and Ground Mobile Radio (GMR) radios into the system, integration of the Blue Force Tracker into the control cell, Data Storage Device (DSD) modifications to alleviate NSA concerns and Integrated Computing System (ICS) updates. Additional threshold requirements planned for BCT modernization program include interoperability with Battle Command, Level 5 Interactive Electronic Technical Manual System, In-Flight Target Updates, disenable in flight, 72 hour on-board power, functioning Platform Soldier Mission Readiness System/Logistics Decision Support System.In January 2006, the NLOS-LS Project Office entered into a Memorandum of Agreement with the Navy to pursue NLOS-LS as the Navy's materiel solution for small boat threat on its Littoral Combat Ships.</p>											

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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	208.009	88.660	81.675	0.000	81.675
Current President's Budget	253.684	91.223	81.247	0.000	81.247
Total Adjustments	45.675	2.563	-0.428	0.000	-0.428
• Congressional General Reductions		-0.477			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		3.040			
• Congressional Directed Transfers		0.000			
• Reprogrammings	51.500	0.000			
• SBIR/STTR Transfer	-5.825	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.428	0.000	-0.428
Change Summary Explanation					
Change Summary Explanation: Increased funding in FY 2010 finances FCS Network integration and support NSA Information Assurance.					

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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
F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>This project funds the System Development and Demonstration (SDD) for the Non-Line of Sight Launch System (NLOS-LS), which is part of the Brigade Combat Team (BCT) modernization program. NLOS-LS has been called upon to deliver its enabling lethality capabilities to the Infantry Brigade Combat Teams (IBCTs). NLOS-LS consists of the Precision Attack Missile (PAM) and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, communications and software for remote, unmanned operations. This project focuses on the development of a materiel solution to meet the NLOS-LS operational need as delineated in the Future Combat System (FCS) Operational Requirements Document (ORD) and Increment 1 Early-Infantry Brigade Combat Team (E-IBCT) Capabilities Production Document (CPD). The PAM will be vertically launched directly from the CLU based on fire missions received via the BCT network and will be capable of being updated in-flight via on-board radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. The PAM will have Automatic Target Acquisition (ATA) capability which can be upgraded in future versions. NLOS-LS, delivered during the Increment 1 timeframe, will equip Current Forces with an Advanced Field Artillery Tactical Data System (AFATDS) command based unmanned precision attack missile system. Increment 2 will address objective requirements to meet the Capability Development Document (CDD). These efforts will include Insensitive Munition requirements, incorporation of the Handheld, Manpack and Small Form Fits(HMS)-J and Ground Mobile Radio (GMR) radios into the system, integration of the Blue Force Tracker into the control cell, Data Storage Device (DSD) modifications to alleviate NSA concerns and Integrated Computing System (ICS) updates. Additional threshold requirements planned for BCT modernization program include interoperability with Battle Command, Level 5 Interactive Electronic Technical Manual System, In-Flight Target Updates, disenable in flight, 72 hour on-board power, functioning Platform Soldier Mission Readiness System/Logistics Decision Support System. In January 2006, the NLOS-LS Project Office entered into a Memorandum of Agreement with the Navy to pursue NLOS-LS as the Navy's materiel solution for small boat threat on its Littoral Combat Ships.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1						86.075	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
FY09 Accomplishments - PAM Systems Engineering & Program Mgt: Continued system detailed design and Single Channel Radio System (SCRS) radio integration. Completed qualification testing on the battery, warhead, air data module, electronic safe/arming device, and radio antenna subcomponents. Achieved NLOS-LS Certification & Accreditation PAM Build 4 for Authority to Operate (ATO). 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 FY10 Planned Accomplishments - PAM Systems Engineering & Program Mgt: Increment 1: Collect PAM data/ design NLOS-LS Interactive Electronic Technical Manual System. Completed NSA Type 1 certification of SCRS radio. Completed 10 GTV flight tests. Successfully performed Stockpile-To-Target Sequence (STS) Testing (GTV 12 and GTV 13). Conducted communications testing with AFATDS and the SCRS RV-5 Radio. Continue subcomponent Qualification Testing on the CAS, ISD, Seeker, Radio, Rocket Motor, and Electronics Unit. Completed Qualification Testing on the Container / health monitor, NNS, RV-5 Radio, PAM, and AUR. Design and implementation of new square Wing Spring to ensure meeting max crosswind requirements. Validated PAM/ CLU radio connectivity with DSD sending PAM data. Participate in system integration exercises to improve CONOPS and mission threads.	0.000	7.517	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 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 FY10 Planned Accomplishments - PAM Systems Engineering & Program Mgt: Increment 2: Continue design efforts to meet threshold requirements such as in-flight target updates and disenable in-flight capabilities (requirement compliancy efforts). Support requirements development and system integration of missile improvements with simulations and operational analysis. Continue design efforts to mitigate issues affecting system performance such as soot on dome (affecting performance of both SAL and IR) and improvements to algorithm robustness in high clutter for stationary targets in the IR mode. Continued seeker improvements affecting production (new IR camera core) and system performance. FY 2009 Accomplishments: FY 2009		0.000	17.062	0.000	0.000	0.000
FY 2010 Plans: FY 2010						

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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 #4 FY11 Planned Accomplishments - PAM Systems Engineering & Program Mgt: Increment 2: Continued development testing and verification of design of in-flight target updates and disenable in-flight capabilities. Continued testing and verification of seeker improvements. Continued support of system simulations, integration of missile improvements and operational analysis. Update PAM Interface Specifications. Perform Independent Verification and Validation (IV&V) of updated tech data package. Continue requirement compliancy efforts to reduce waivers (i.e. Insensitive Munitions compliance and removal of Hazardous Materials). 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	15.561	0.000	15.561
Program #5		14.049	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
FY09 Accomplishments - PAM PROTOTYPE: Increment 1: Built and delivered 23 PAM prototypes for developmental testing that began in FY08. 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 FY09 Accomplishments - PAM SOFTWARE: Increment 1: Continued PAM software design, code, testing, and integration of incremental Flight SW builds (PAM Build 5, 5.6, and 6) to incorporate Radio Version (RV)4, RV5 radios, and DSD interface. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		9.182	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 #7 FY10 Planned Accomplishments - PAM SOFTWARE: : Increment 1: Complete SRW 1.0.1.1C updates on SCRS. Obtain NSA approval of SCRS and DSD SW. Update PAM Software to address open Software Problem Reports (SPRs) on build 6 SW configurations and algorithm updates. Complete final IV&V for tactical PAM SW. 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	12.716	0.000	0.000	0.000
Program #8 ***FY10 Planned Accomplishments - PAM SOFTWARE: Increment 2: Continue PAM software design, code, testing, and integration to support new builds to comply with ARMY SW blocking CS13-14. Update PAM network interface for UAV as well as B-Kit Incr 2 communications. Perform incremental Software Formal Qualification testing for build Updates. Assess Tactical Security vulnerability on SW updates to support ATO update. Conduct Single and Multiple Missile Integration Testing on SW updates. Conduct system integration exercises to improve CONOPS and mission threads		0.000	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
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 #9 FY11 Planned Accomplishments - PAM SOFTWARE: Increment 2: Fix any problems that emerge during testing and support IOTE. Continuation of PAM network interface for UAV as well as B-Kit Incr 2 communications. Continuation of PAM SW updates to comply with ARMY SW blocking CS13-14. Complete Software Formal Qualification testing for build Updates. Complete Tactical Security vulnerability assessment on SW updates to support ATO update. Complete Single and Multiple Missile Integration Testing on HW and SW updates. Complete system integration exercises to improve CONOPS and mission threads. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		0.000	0.000	13.840	0.000	13.840

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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 #10 FY09 Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: System engineering analysis of test results. Finalized Training Support Packages/Level III IETM; continued to evaluate UID/IUID marking. Continued developing NLOS-LS Independent Data Acquisition System (NIDAS). Integration of Nav system into the CLU and transfer alignment to the PAM. Subsystem qualification and CLU-level environmental qualification. Development of Automated Test Equipment (ATE). FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	53.930	0.000	0.000	0.000	0.000
Program #11 FY10 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: Update Safety Release. Complete NSA Type 1 certification of Data Storage Device. CLU integration and software development. Update CLU Interface Specifications for Build to Final Software. Perform IV&V of updated tech data package. DSD system task integration; validation and certification of crypto key management procedures. Continued	0.000	9.956	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
support of field exercises at Ft. Bliss. Incorporation of SRW Rev 5 SCRS radio and DSD into Control Cell per NSA requirements. Complete qualification and delta qualification of subsystems and CLU. 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 FY10 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 2: Begin integration of the HMS-J radio into the CLU. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base		0.000	14.934	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 #13 FY11 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: Provide support to Increment 1 testing, including IOTE. Increment 2: CLU and System requalification; Data Storage Device redesign and recertification (requirement compliancy effort) to address NSA concerns. Update CLU Interface Specifications to include radio changes and NSA evolving requirements. Perform IV&V of updated tech data package. Complete integration of the HMS-J radio into the CLU. Continued support of field exercise at Ft. Bliss. Participate in AFATDS system integration exercises to validate mission threads for the system. Continue requirement compliancy efforts to reduce waivers. Achieve final NSA certification for unattended operations. Integration of JCR/Blue Force Tracker (BFT) into Control Cell. 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	23.088	0.000	23.088
Program #14 FY11 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 2: CLU and System requalification; Data Storage Device redesign and recertification (requirement compliancy effort) to address		0.000	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
NSA concerns. Update CLU Interface Specifications to include radio changes and NSA evolving requirements. Perform IV&V of updated tech data package. Complete integration of the HMS-J radio into the CLU. Continued support of field exercise at Ft. Bliss. Participate in AFATDS system integration exercises to validate mission threads for the system. Continue requirement compliancy efforts to reduce waivers. Achieve final NSA certification for unattended operations. Integration of JCR/Blue Force Tracker (BFT) into Control Cell. 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 #15 FY09 Accomplishments - CLU PROTOTYPE: Increment 1: Build and delivered 7 CLU prototypes for developmental testing that began in FY08. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010		3.773	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 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #16 FY09 Accomplishments - CLU SOFTWARE: Continued CLU software design, code, testing, and integration of incremental Flight SW builds (CLU Build 12,13, and 14) to incorporate DSD interface and Radio Version RV5 radios PAM Interface. Achieved NLOS-LS Certification and Accreditation on CLU ITR 14.x with SOSCOE RE 2.1 for Authority To Operate and continued software design testing. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	50.510	0.000	0.000	0.000	0.000
Program #17 FY10 Planned Accomplishments - CLU SOFTWARE: Increment 1: Update CLU Software to address open Software Problem Reports (SPRs) on build 14.x SW configurations. Complete final IV&V for tactical CLU SW. Complete Software Formal Qualification testing for build Updates.	0.000	3.581	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 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						
FY 2011 Base Plans: FY 2011 Base						
FY 2011 OCO Plans: FY 2011 OCO						
Program #18 FY10 Planned Accomplishments - CLU SOFTWARE: : Increment 2: Continue CLU software design, code, testing, and integration to support new builds to comply with ARMY SW blocking CS13-14. Update CLU network interface for B-Kit Incr 2 communications. Update CLU SW to incorporated SOSCOE Interop and Secure RMI CLU-CLU communication. Perform incremental Software Formal Qualification testing for build Updates. Assess Tactical Security vulnerability on SW updates to support ATO update. Conduct Single and Multiple Missile Integration Testing on SW updates to assess system compatibility. Conduct system integration exercises to improve CONOPS, mission threads, and test out SOSCOE Interop functions. Upgrade SINCGARS to CLU communication software.		0.000	6.650	0.000	0.000	0.000
FY 2009 Accomplishments: FY 2009						
FY 2010 Plans: FY 2010						

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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 #19 FY11 Planned Accomplishments - CLU SOFTWARE: Increment 2: Fix any problems that emerge during testing and support IOTE. Continuation of CLU network interface for B-Kit Incr 2 communications. Continuation of CLU SW updates to comply with ARMY SW blocking CS13-14. Integrate HMS-J and GMR radio for JTRS communication to and from Battle command. Complete Software Formal Qualification testing for build Updates. Complete Tactical Security vulnerability assessment on SW updates to support ATO update. Complete Single and Multiple Missile Integration Testing on SW updates. Complete system integration exercises to improve CONOPS, mission thread and SoSCOE Interop Functions 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	10.013	0.000	10.013
Program #20		14.415	8.468	8.045	0.000	8.045

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY09, FY10, FY11 Accomplishments - Government Systems Engineering & Prog Mgt: Increment 1 & 2: Continued Gov't management of NLOS-LS acquisition program to include: program management, contract management, system and subsystem level engineering analysis, budget planning and execution, cost analysis, milestone documentation preparation, test program management, PAM and CLU products management, production planning, system software management, AETF support, logistics planning, engineering and logistics subject management expert support, and management of NLOS-LS efforts performed by other government agencies. 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 #21 FY09 Accomplishments - GOVERNMENT TEST: Increment 1: Continued Gov't validation of the IFS in support of Army Technical Evaluation Command (ATEC) accreditation package for the Guided Test Vehicle (GTV). Continued support for developmental test. Supported GTV flight tests with Integrate Flight Simulation and HWIL pre-test predictions and post-test analysis. Conducted 11 PAM GTV flight tests. Began Electronic Warfare (EW) Test; and Nuclear Test; and Electromagnetic Environmental Effects (E3) Tests. Continued AETF evaluations; prepared for Operational Test (OT); updated NLOS-LS Certification and Accreditation of CLU iteration 12 software for ATO. Prepared for Flight LUT and continued support for Live Fire Test and Evaluation with tests,		21.750	0.000	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project 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 0604646A: Non-Line of Sight Launch System		PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
models, and simulations; model and simulations (IFS and Hardware-in-the-Loop) support for LUT pre-test and associated evaluations; Electronic Warfare Susceptibility tests; Nuclear Effects testing; completed system qualification; participate in ground LUT. 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 #22 FY10 Planned Accomplishment - GOVERNMENT TEST: Increment 1: Modeling and simulation support for system and System of Systems (SoS) testing. Conducted 3 PAM GTV flight tests. Conduct 4 GTV flight tests at Cold Region Test Center, Ft. Greeley, AK. Conduct Flight Limited User Test (6 total PAM flights), Support Increment 1 Technical Test and FY10 LUT of hardware in a classified environment using Single Channel Ground to Air Radio System (SINCGARS) Radios. SRW-compatible radio integration into control cell. Test updated software. Post LUT updates to HW/SW based on tests and prepare for initial Operational Test and Evaluation (IOT&E). Conduct associated training, provide logistics support and data collectors for soldier test events. FY 2009 Accomplishments: FY 2009		0.000	7.870	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project 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 0604646A: Non-Line of Sight Launch System		PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM		
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 #23 FY11 Planned Accomplishment - GOVERNMENT TEST: Increment 1: Modeling and simulation support for system and System of System (SoS) testing Participate in TFT, FDT&E, Ground IOTE and Flight IOTE. Conduct associated training, provide logistics support, and data collectors for soldier test events. Test and verify Current Force interoperability improvements (Pocket-Sized Forward Entry Device (PFED), Forward Observer Software/ System (FOS), Advanced Field Artillery Tactical Data System (AFATDS), Control Cell) 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	10.700	0.000	10.700
Program #24		0.000	2.469	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project 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 0604646A: Non-Line of Sight Launch System				PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM			
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Small Business Innovative Research/Small Business Technology Transfer Programs											
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						253.684	91.223	81.247	0.000	81.247	
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: 0604647A Non-Line of Sight - Cannon	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #2: 0604661A FCS Manned Ground Vehicles & Common Grd Vehicle Components	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #3: 0604660A 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

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Exhibit R-2A, RDT&E Project 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 0604646A: Non-Line of Sight Launch System				PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM			
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. #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	Continuing	Continuing
• 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
• Ord. #15: OPA B00001 BCT Unattended Ground Sensor	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: OPA B00004 BCT Unattended Ground Sensor Incr 2	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: OPA B00002 BCT Network	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: OPA B00003 BCT Network Incr 2	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing

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Exhibit R-2A, RDT&E Project 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 0604646A: Non-Line of Sight Launch System				PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM			
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. #19: OPA F00001 BCT Unmanned Ground Vehicle											
• Ord. #20: OPA F00002 BCT Unmanned Ground Vehicle Incr 2	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: OPA G80001 BCT Training/Logistics/Management	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: OPA G00002 BCT Training/Logistics/Management Incr 2	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: MSLS C64501 BCT NLOS- LS Incr 1	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: MSLS C64601 BCT NLOS- LS Incr 2	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 NLOS-LS SDD contract on 19 March 2004 to Netfires Limited Liability Company (LLC), consisting of Lockheed Martin Corporation, doing business through its Missiles and Fire control and operating entity in Grand Prairie, TX; and the Raytheon Corporation, doing business through its Missile Systems Business Unit in Tuscon, AZ. The NLOS-LS SDD contract was definitized 20 August 2004. The NLOS-LS is technologically mature enough to be included as a desired capability into Current Force Early-Infantry Brigade Combat Teams (E-IBCTs) Increment 1.											
E. Performance Metrics											
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			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)					R-1 ITEM NOMENCLATURE PE 0604646A: Non-Line of Sight Launch System					PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM			
Product Development (\$ 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
Design	C/Various	See remarks Location could not be determined.	210.174	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Prototype	C/Various	See remarks Location could not be determined.	46.189	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Software	C/Various	See remarks Location could not be determined.	26.418	0.000		0.000		0.000		0.000	Continuing	Continuing	0
PAM Software	C/Various	See remarks Location could not be determined.	0.000	12.716		13.840		0.000		13.840	Continuing	Continuing	0
CLU Design	C/Various	See remarks Location could not be determined.	0.000	24.890		23.088		0.000		23.088	Continuing	Continuing	0
PAM Prototype	C/Various	See remarks Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CLU Prototype	C/Various	See remarks Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
PAM Design	C/Various	See remarks Location could not be determined.	0.000	24.579		15.561		0.000		15.561	Continuing	Continuing	0
CLU Software	C/Various	See remarks Location could not be determined.	0.000	10.231		10.013		0.000		10.013	Continuing	Continuing	0

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604646A: <i>Non-Line of Sight Launch System</i>				PROJECT F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>																																																													
Product Development (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">282.781</td> <td align="right">72.416</td> <td></td> <td align="right">62.502</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">62.502</td> <td></td> <td></td> <td align="right">0.000</td> </tr> </table>																		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	Subtotal			282.781	72.416		62.502		0.000		62.502			0.000														
				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																																																								
Subtotal			282.781	72.416		62.502		0.000		62.502			0.000																																																								
Remarks Prime contractors: #1 Lockheed, Dallas, Texas #2 Raytheon, Tuscon, Arizona Sub Contractors: #3 Lockheed, Baltimore, MD #4 ATK, Rocket City, WV #5 Raytheon, Fullerton, CA #6 IGS, Minneapolis, MN #7 IEC, Anaheim, CA #8 KDI, Cincinatti, OH #9 Raytheon, Louisville, KY #10 Sparta, San Diego, CA #11 General Dynamics, Niceville, FL #12 BrenTronics, Commack, NY #13 MOOG, Salt Lake City, UT																																																																					
Support (\$ in Millions) <table border="1" style="width:100%; border-collapse: collapse; margin-top: 10px;"> <tr> <th colspan="4"></th> <th colspan="2">FY 2010</th> <th colspan="2">FY 2011 Base</th> <th colspan="2">FY 2011 OCO</th> <th>FY 2011 Total</th> <th colspan="3"></th> </tr> <tr> <th>Cost Category Item</th> <th>Contract Method & Type</th> <th>Performing Activity & Location</th> <th>Total Prior Years Cost</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Award Date</th> <th>Cost</th> <th>Cost To Complete</th> <th>Total Cost</th> <th>Target Value of Contract</th> </tr> <tr> <td>Various</td> <td>C/Various</td> <td>MULTI Location could not be determined.</td> <td align="right">2.793</td> <td align="right">2.167</td> <td></td> <td align="right">2.067</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">2.067</td> <td align="center">Continuing</td> <td align="center">Continuing</td> <td align="right">0</td> </tr> <tr> <td align="right" colspan="3">Subtotal</td> <td align="right">2.793</td> <td align="right">2.167</td> <td></td> <td align="right">2.067</td> <td></td> <td align="right">0.000</td> <td></td> <td align="right">2.067</td> <td></td> <td></td> <td align="right">0.000</td> </tr> </table>																		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	Various	C/Various	MULTI Location could not be determined.	2.793	2.167		2.067		0.000		2.067	Continuing	Continuing	0	Subtotal			2.793	2.167		2.067		0.000		2.067			0.000
				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																																																								
Various	C/Various	MULTI Location could not be determined.	2.793	2.167		2.067		0.000		2.067	Continuing	Continuing	0																																																								
Subtotal			2.793	2.167		2.067		0.000		2.067			0.000																																																								
Remarks <div style="height: 100px;"></div>																																																																					

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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 0604646A: Non-Line of Sight Launch System				PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM					
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
Various	C/Various	MULTI Location could not be determined.	7.292	7.870		10.700		0.000		10.700	Continuing	Continuing	0
Subtotal			7.292	7.870		10.700		0.000		10.700			0.000
Remarks Test Sites: WSMR; Eglin Air Force Base; CRTC, Ft. Greeley, AK; RTTC, Redstone Arsenal, AL; APG, Aberdeen, Maryland; Ft. Bliss, TX													
Management Services (\$ 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
Various	C/Various	MULTI Location could not be determined.	21.115	8.770		5.978		0.000		5.978	Continuing	Continuing	0
Subtotal			21.115	8.770		5.978		0.000		5.978			0.000
Remarks													
			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			313.981	91.223		81.247		0.000		81.247			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: 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 0604646A: <i>Non-Line of Sight Launch System</i>			PROJECT F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>			
	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: 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 0604646A: Non-Line of Sight Launch System									PROJECT F72: NON LINE OF SIGHT LAUNCH SYSTEM										
	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
Spin Out (Early) to IBCT (LUT)			#																									
Spin Out Long Lead Items				#																								
Flight LUT					#																							
CRTC Flights				#	#																							
FY10 LUT					#																							
FY11 FDTE/IOTE									#	#	#																	
Spin Out MS C				#	#	#	#	#																				
Increment 2									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
LRIP					#	#	#	#	#	#	#	#	#															
Flight OT						#																						
IOC													#															
1st E-IBCT FUE										#	#																	
2nd E-IBCT													#															
3rd E-IBCT														#														
Incr 2 PDR					#																							
Incr 2 CDR									#																			
Incr 2 Production					#	#	#	#	#	#	#	#	#	#														
Incr 2 FDTE&E/STX/LUT 13														#	#													
Incr 2 Milestone C																	#											
Incr 2 Initial Operational Capability																									#			

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army			DATE: February 2010
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Spin Out (Early) to IBCT (LUT)	3	2009	3	2009
Spin Out Long Lead Items	4	2009	4	2009
Flight LUT	1	2010	1	2010
CRTC Flights	4	2009	1	2010
FY10 LUT	1	2010	1	2010
FY11 FDTE/IOTE	1	2011	3	2011
Spin Out MS C	4	2009	4	2010
Increment 2	2	2011	2	2015
LRIP	2	2010	1	2012
Flight OT	3	2010	3	2010
IOC	1	2012	1	2012
1st E-IBCT FUE	3	2011	4	2011
2nd E-IBCT	1	2012	1	2012
3rd E-IBCT	3	2012	3	2012
Incr 2 PDR	2	2010	2	2010
Incr 2 CDR	2	2011	2	2011
Incr 2 Production	1	2010	3	2012
Incr 2 FDTE&E/STX/LUT 13	3	2012	4	2012

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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 0604646A: <i>Non-Line of Sight Launch System</i>	PROJECT F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>

	Start		End	
Event	Quarter	Year	Quarter	Year
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	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 0604646A: <i>Non-Line of Sight Launch System</i>				PROJECT F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>
Cost (\$ in Millions)	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	
Program Termination Liability	9.874	0.345	0.350	0.000	0.000	0.000	0.000	

Notes

The NLOS-LS prime contract incorporates the "Limitation of Funds" clause, FAR 52.232-22, to limit the Government's liability and FAR 52.249-6, Termination (Cost Reimbursement), for contract termination.

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