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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 4: Advanced Component Development & Prototypes (ACD&P)				R-1 ITEM NOMENCLATURE PE 0603774A: Night Vision Systems Advanced Development							
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	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	2.508
131: NIGHT VISION SYS A/DEV	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions, and Close Surveillance Support System (CS3) for 360 degree situational awareness for vehicles. CS3 will allow vehicle occupants to see outside the vehicle in day or night with improved vision. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Overwatch and other technologies provide for detecting, classifying, and locating weapons based on firing signatures (snipers/hostile fires). Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers. There are no FY 2010 funds.

B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	2.580	0.000	0.000	0.000	0.000
Current President's Budget	2.508	0.000	0.000	0.000	0.000
Total Adjustments	-0.072	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• 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	0.000	0.000			
• Adjustments to Budget Years	-0.072	0.000	0.000	0.000	0.000

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<u>Change Summary Explanation</u> Change Summary Explanation: FY08 funds (\$0.891) realigned to higher priority requirements. FY10 funds (\$5.644) realigned to higher priority requirements.		

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>				R-1 ITEM NOMENCLATURE PE 0603774A: <i>Night Vision Systems Advanced Development</i>				PROJECT 131: <i>NIGHT VISION SYS A/DEV</i>			
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
131: <i>NIGHT VISION SYS A/DEV</i>	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification <p>This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions, and Close Surveillance Support System (CS3) for 360 degree situational awareness for vehicles. CS3 will allow vehicle occupants to see outside the vehicle in day or night with improved vision. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Overwatch and other technologies provide for detecting, classifying, and locating weapons based on firing signatures (snipers/hostile fires). Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers. FY 2009 funding supports continuing UAV Advanced Payloads and Advanced Sensor Fusion efforts as well as emerging concepts for laser imaging, route reconnaissance, battle damage assessment, information on the firing of weapons (counter sniper/fires location and targeting), and detection of personnel with RPGs, IEDs, and suicide bombers.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #1						0.480	0.000	0.000	0.000	0.000	
Emerging Concepts - Explore a range of potential technologies for FCS and the Future Force that will enable route reconnaissance, battle damage assessment, and detection of threats.											
FY 2009 Accomplishments: FY 2009											

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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 #2 UAV Advanced Payloads - Technology to sense the presence of personnel and man-made objects to include under natural foliage. Determine feasibility of integrating current processing technology development into Persistent Surveillance capabilities in-theatre and the Extended Range/Multi-Purpose (ER/MP) Program. This includes hyperspectral and laser imaging (Buckeye) for three dimensional display. FY07 Completed phase 1 of 2 phase Hyperspectral Study. FY08/FY09 investigates integration of Buckeye on ER/MP. FY 2009 Accomplishments: FY 2009 FY 2010 Plans: FY 2010 FY 2011 Base Plans: FY 2011 Base FY 2011 OCO Plans: FY 2011 OCO	0.575	0.000	0.000	0.000	0.000
Program #3	1.453	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	
Advanced Sensor Fusion - develop and demonstrate a fused/blended sensor including but not limited to image intensification, day camera, infrared, and multi function laser. These applications are intended for Common Sensor Payload improvements for the ARH-70A, ER/MP, and FCS Class 4, among other platforms. FY08 investigates these capabilities with demonstrations in FY09. 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						2.508	0.000	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: PE 0602709A/Night Vision and Electro-Optical Technology	25.647	26.381	0.000	0.000	26.905	26.929	26.974	0.000	0.000	Continuing	Continuing
• Ord. #2: PE 0603710A/Night Vision Advanced Development	39.916	40.595	0.000	0.000	43.985	45.653	46.756	0.000	0.000	Continuing	Continuing
• Ord. #3: PE 0604710A/Night Vision Devices Engineering Development	44.508	37.892	0.000	0.000	36.692	33.969	34.481	0.000	0.000	Continuing	Continuing
• Ord. #4: K38300 LRAS3	210.766	178.255	0.000	0.000	188.042	64.923	0.000	0.000	0.000	0	678.356

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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. #5: G86100 Future Combat System	154.583	148.028	0.000	0.000	677.820	0.000	0.000	0.000	0.000	0	1,061.363
• Ord. #6: BA0330 TUAV	0.003	258.307	0.000	0.000	58.901	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #7: B00302 Advanced TUAV Payloads	141.988	162.602	0.000	0.000	149.436	123.076	116.698	0.000	0.000	Continuing	Continuing
• Ord. #8: W61900 IAV	231.651	197.154	0.000	0.000	124.513	100.987	71.299	0.000	0.000	Continuing	Continuing
• Ord. #9: PE 654645 FCS (UGS)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #10: K31300 DVE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #11: D15402 Truck Utility Heavy Variant 10000 LB	946.734	0.000	0.000	0.000	0.000	0.000	288.472	0.000	0.000	Continuing	Continuing
• Ord. #12: D15900 Truck, Tractor, Line Haul M915A2	9.913	45.685	0.000	0.000	46.809	11.731	13.058	0.000	0.000	Continuing	Continuing
• Ord. #13: G85100 Stryker Vehicle	0.000	0.000	0.000	0.000	0.000	840.419	248.976	0.000	0.000	Continuing	Continuing
• Ord. #14: GA0700 M1 Abrams Tank (MOD)	341.569	253.231	0.000	0.000	334.989	261.041	25.673	0.000	0.000	Continuing	Continuing
• Ord. #15: GA0730 System Enhancement Pgm Sep M1A2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #16: G80716 Bradley Base Sustainment (M2A2)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #17: G80717 Bradley Base Sustainment (M2A3)	171.989	144.813	0.000	0.000	162.470	7.426	8.120	0.000	0.000	Continuing	Continuing
D. Acquisition Strategy											
The advances and technology improvements to UAV payloads, and advanced sensor fusion for Common Sensor Payload that will utilize various cost reimbursement development type contracts that were, and will continue to be, competitively awarded using best value source selection procedures.											
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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