

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)							February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev						
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	34107	28980	38821	52227	28688	23163	22554	Continuing	Continuing
L67 SOLDIER NIGHT VISION DEVICES	11653	15589	17074	19659	10349	10347	10347	0	110806
L70 NIGHT VISION DEV ED	19176	13391	17097	13537	10059	12816	12207	Continuing	Continuing
L76 Long Range Advanced Scout Surveillance System - FS	3278	0	4650	19031	8280	0	0	0	54749
<p>A. Mission Description and Budget Item Justification: This program element provides night vision/reconnaissance, surveillance and target acquisition technologies required for U. S. defense forces to engage enemy forces twenty-four hours a day under conditions of degraded visibility due to darkness, adverse weather, battlefield obscurants, foliage and man-made structures. These developments and improvements to high performance night vision electro-optics, radar, laser, and thermal systems and integration of related multi-sensor suites will enable near to long range target acquisition, identification and engagement to include significant fratricide reduction, which will improve battlefield command and control in "around-the-clock" combat operations. Project L67 focuses on night vision electro-optical, laser, and other target identification and location equipment for a variety of Future Combat System of Systems (FCS) Units of Action/Employment and Future Force soldiers. This project includes the enhanced night vision goggle, modular HTI multi-function laser activities, and thermal upgrades to include an uncooled medium thermal weapon sight. Project L70 focuses on night vision, reconnaissance, surveillance and target acquisition (RSTA) sensors and suites of sensors to provide well-defined surveillance and targeting capabilities for a variety of Current, Modular, Future Combat System of Systems (FCS) and Future Force platforms. This project includes night vision sensor acquisition support of FCS core systems, Risk Reduction Demonstration (RRD) of standard uncooled thermal sensor packages, Sense Through The Wall programs, Unattended Ground Sensor systems, common sensor message set management for FCS and other applications, upgrades to existing ground surveillance radars, provides Persistent Surveillance and Dissemination System-of-Systems (PSDS2) enhancements and capability improvements, transitions the 3rd Generation Forward Looking Infrared from an Advanced Technology Objective (ATO), and develops the Driver's Vision Device (DVD). Project DL76 focuses on target acquisition common sensor system that will combine the long-range surveillance and targeting capabilities of the Army's Long Range Advanced Scout Surveillance System (LRAS3) with the laser designation capabilities of the Lightweight Laser Designator Rangefinder's Laser Designation Module (LDM). RDT&E funding is required to design and develop a Block Pre-Planned Product Improvement (P3I) for the LRAS3. In addition to the design activities, sufficient prototype systems will be produced to support testing and other pre-production activities. The system significantly increases the observation and target engagement capabilities over that provided by the current first generation equipment, AN/TAS-4 Night Sight and Ground/Vehicular Laser Locator Designator (G/VLLD). Block P3I upgrades developed under this project will be inserted through ongoing production contracts.</p>									

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)				February 2006
BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev		
	FY 2005	FY 2006	FY 2007	
<u>B. Program Change Summary</u>				
Previous President's Budget (FY 2006)	26119	26449	38224	
Current BES/President's Budget (FY 2007)	34107	28980	38821	
Total Adjustments	7988	2531	597	
Congressional Program Reductions		-127		
Congressional Rescissions		-292		
Congressional Increases		2950		
Reprogrammings	7988			
SBIR/STTR Transfer				
Adjustments to Budget Years			597	
Change Summary Explanation: Funding - FY 2005 Congressional reprogrammed into this PE for proper execution: Multiplatform Replacement Sight (MRS) and Persistent Surveillance Dissemination System of Systems (PSDS2). FY 2006 Congressional increase for \$1.7M for Soldier Wearable Acoustic Targeting System (SWATS)and \$1.25M for Small Arms and Light Weapons, Soldier Mounted Detection and Location System.				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)								February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev				PROJECT L67	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
L67 SOLDIER NIGHT VISION DEVICES	11653	15589	17074	19659	10349	10347	10347	0	110806
A. Mission Description and Budget Item Justification: This project develops, improves and miniaturizes high performance night vision electro-optics, thermal and laser systems. It also provides for systems integration of related multi-sensor suites to enable near to long-range target acquisition and engagement as well as improved battlefield command and control in "around-the-clock" combat operations. It focuses on technology that can bring improvements to the dismounted Soldiers' equipment. This project develops or enhances equipment that provides the individual Soldier day/night situational awareness and individual targeting capability, sniper fire detection and location capability, and integrates improved target location and self-location capability to eliminate friendly fire incidents. The Enhanced Night Vision Goggle (ENVG) will be a head/helmet mounted night vision system for the individual Soldier. The system will use both image intensifier and uncooled thermal technology to provide a multi-spectral image to the Soldier. Other efforts include a miniaturized laser designating system for a variety of ground Soldier systems, small Unmanned Aerial Vehicle (UAV), and other air platforms and the development of Sense Through The Wall (STTW) technology giving Soldiers the ability to detect threats through walls during Military Operations on Urban Terrain (MOUT), developing fused electro-optical sights for Special Forces and developing focal plane technology increasing product resolution and range.									
<u>Accomplishments/Planned Program</u>						<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
Continue development of next generation Enhanced Night Vision Goggles (ENVG). The digital ENVG will provide Soldiers the ability to use both image intensifier and uncooled thermal technologies during day, night, and obscured battlefield conditions.						7675	4000	3037	
Complete development of the Small Tactical Optical Rifle Mounted (STORM) micro-Laser Range Finder (mLRF), which provides Soldiers the ability to perform target location while using individual weapons.						1862	500	0	
Completed Thermal Upgrade activities (prototype test and evaluation), which enhances the combat effectiveness of Thermal Weapon Sight (TWS) Heavy/Medium/Light systems.						374	0	0	
Continue to reduce target location error through the development of a non-magnetic compass for the Lightweight Laser Designator Rangefinder (LLDR) and an ultra lightweight designator(ULD) to reduce size and weight of the current laser designator module (LDM).						1533	2000	3110	
Initiate development of Sense Through The Wall (STTW) technology, which provides dismounted Soldiers with the capability to detect, locate and identify threats through walls during Military Operations on Urban Terrain (MOUT).						0	175	3109	
Initiate the development of the Fused Weapon Sight (FWS), which is a passive fused electro-optical sight for Special Operations Forces.						0	0	476	
Continue the development, testing and evaluation of Focal Plane Arrays (FPA) with improved sensitivity and range.						0	5464	4340	
Completed the development and evaluation of day color camera as a replacement for direct view optics in handheld targeting devices.						209	0	0	
Initiate the development of high accuracy Azimuth Vertical Angle Measurement (AVAM) devices for handheld, man-portable target location devices.						0	500	3002	
Initiate the development of sniper fire detection and location technology, using portable sensors on Soldiers to locate gunfire.						0	2950	0	
Total						11653	15589	17074	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)							February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev						PROJECT L67	
B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Helmet Mounted Enhanced Vision Devices (K36400) OPA2	182952	146362	229350	232415	322941	336050	377691	CONT	CONT
Thermal Weapon Sight (TWS) (K22900) OPA2	73500	145654	209537	230607	209567	182178	186454	CONT	CONT
Lightweight Laser Designator Rangefinder (LLDR) (K31100) OPA2	43083	12562	50160	93986	77414	80130	62086	CONT	CONT
Multi-Function Aiming Light (K35000) OPA2	20749	28834	26584	29274	21690	21083	17556	CONT	CONT
Sniper Night Sight (K41500)	8625	16060	18206	14948	15893	13298	12192	CONT	CONT

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604710A - Night Vision Systems - Eng Dev							L67		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Enhanced NVG Analysis and Design	C/FP	Various	4507	5412	1Q	3465	1-2Q	2456	1-2Q	Continue	0	0
STORM micro-Laser Range Finder Activity	C/FP	DRS - Torrence, CA / Insight Technologies - Londonderry, NH	615	980	1Q	432	1-2Q	0		0	0	0
Focal Plane Arrays Activity	C/FP	Various	1500	0		4984	1-3Q	3958	1-2Q	Continue	0	0
Ultra Lightweight Designator Development Activity	C/FP	Fibertek - Herndon, VA	1582	1469	1Q	1728	1-2Q	2127	1-2Q	Continue	0	0
Sense Through The Wall (STTW) Activity	C/FP	TBD	0	0		159	1-2Q	2386	1-2Q	Continue	0	0
Fused Electro-Optical Weapon Sight Development	C/FP	TBD	0	0		0		457	1-2Q	Continue	0	0
Day Color Camera Evaluation and Development	C/FP	NVESD - Fort Belvoir, VA	0	185	2Q	0		0		0	0	0
AVAM Development Activities	C/FP	TBD	0	0		240	2-3Q	2402	1-2Q	Continue	0	0
Sniper Fire Detection and Location Technology Development	C/FP	TBD	0	0		2950	2-3Q	0		0	0	0
Subtotal:			8204	8046		13958		13786		Continue	0	0
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Various	230	149	2Q	150	1-3Q	439	1-2Q	Continue	0	0
Subtotal:			230	149		150		439		Continue	0	0
III. Test And Evaluation	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev							PROJECT L67		
	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Government Test Support Activity	MIPR	Various	3754	3143	1-2Q	1318	1-3Q	2618	1-2Q	Continue	0	0
Subtotal:			3754	3143		1318		2618		Continue	0	0
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Management	MIPR	PM Sensors and Lasers	276	315	1-4Q	163	1-4Q	231	1-4Q	Continue	0	0
Subtotal:			276	315		163		231		Continue	0	0
Project Total Cost:			12464	11653		15589		17074		Continue	0	0

Schedule Profile (R4 Exhibit)																	February 2006															
BUDGET ACTIVITY								PE NUMBER AND TITLE																	PROJECT							
5 - System Development and Demonstration								0604710A - Night Vision Systems - Eng Dev																	L67							
Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11							
	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				
ENVG (Optical) ENVG DT/OT	LRIP Award/Delivery																															
(1) ENVG (Optical) MS C													1																			
ENVG (Digital)	Hardware Development & Evaluation																															
(2) ENVG (Optical) IOC													2																			
ENVG (Digital)													System Development and Demonstration																			
STORM DT/OT/LUT																																
(3) STORM MS C									3																							
TWS II Development and Testing																																
(4) Sense Through The Wall (STTW)									4																							
ULD Development									Prototype Dev / Syst Integration / TLE Improvements																							
(5) Fused Weapon Sight (FWS) MS B													5																			
Fused Weapon Sight (FWS)													System Development and Demonstration																			
Focal Plane Array (FPA)									Evaluation and Development																							
STTW SDD													System Development and Demonstration																			

Schedule Detail (R4a Exhibit)						February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev			PROJECT L67	
<u>Schedule Detail</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Enhanced Night Vision Goggles (ENVG) Optical Development.	1-4Q	1-3Q					
ENVG Digital System Development and Demonstration / LRIP.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Development of the Small Tactical Optical Ranging Module (STORM).	1-4Q	1-2Q					
TWS II Development Testing.	1-3Q						
Fused Weapon Sight (FWS) Development.			3-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Sense Through The Wall (STTW) Technology development.		1-2Q	2-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Ultra Lightweight Designator Prototype Development and Integration.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Focal Play Array (FPA) Eval and Development.		1-4Q	1-4Q	1-4Q	1-2Q		
Sniper Fire Dectection Development		2-4Q	1-2Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)								February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev				PROJECT L70	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
L70 NIGHT VISION DEV ED	19176	13391	17097	13537	10059	12816	12207	Continuing	Continuing
<p>A. Mission Description and Budget Item Justification: This project performs System Development and Demonstration (SDD) on high performance night vision, Reconnaissance, Surveillance, and Target Acquisition (RSTA) systems and other related systems that allow forces to locate and track enemy units in day, night, and all battlefield conditions, and through natural and man-made structures and obscurants. It also develops and integrates suites of these sensors to provide well-defined surveillance and targeting capabilities, as well as architectures for these sensors to communicate automatically. The focus is on meeting the requisite night vision and RSTA capabilities required for evolving Current Force, Modular Force, and Future Force systems. Efforts will continue to refine a standard architecture among sensors with the Sensor Link Protocol (evolving to a joint message set called Sensor Data Link) to allow these sensors to communicate in a plug and play manner for improved force level sensor data fusion, aided target recognition and target hand-off.</p> <p>This project will also demonstrate the producibility of interchangeable uncooled thermal focal plane arrays, and develop an uncooled infrared imaging B-Kit sensor family that will result in standardized sensor modules for a variety of applications. By eliminating the requirement for cryogenic coolers, uncooled thermal imagers are inherently smaller, lighter, more reliable, use less power, and are less expensive. Uncooled B-Kits can be used for a variety of Current Force, Modular Force, Future Combat System (FCS), and Future Force systems such as weapon sights, driver's viewers/situational awareness aids, missile seeker sensors, unattended ground sensors/security sensors, and unmanned ground and aerial vehicle payloads.</p> <p>This project transitions 3rd Gen Forward Looking Infrared (3rd Gen FLIR) technology from the 3rd Gen Infrared Advanced Technology Objective (ATO), developing a 3rd Gen FLIR engine for use in Current Force and Future Force systems. 3rd Gen FLIR provides a dual band, large format Infrared (IR) detector and image processor which enables high performance target detection algorithms and target identification at detection ranges.</p> <p>This project develops, demonstrates and tests Sense Through the Wall (STTW) technology in support of Future Combat System and other Future Force requirements. This will leverage earlier technology base efforts for an Unmanned and Limited Stand-Off capability of detecting personnel and personnel with concealed weapons/concealed explosives through and behind walls and buildings in support of dismounted and mounted MOUT operations and to significantly enhance survivability and situational awareness.</p> <p>This project continues Unattended Ground Sensors (UGS) hardware development, demonstration and test for a family of UGS systems for Intelligence, Surveillance and Reconnaissance (ISR). This will provide FCS and the Army a remotely employable Unattended Ground Sensor capability for ISR and physical security.</p> <p>This project developed the Persistent Surveillance and Dissemination System-of-Systems (PSDS2), a system-of-systems which linked numerous sensors (currently in theater) together, providing theater commanders with a single coordinated picture of the battlefield and the capability to quickly disseminate this "actionable information" to responders. This project also continues efforts to integrate technological improvements to improve overall system performance capabilities.</p> <p>This project develops, integrates, and tests an upgrade to the long Range Advanced Scout Surveillance System (LRAS3) system, making it capable of digitizing, compressing and transmitting target information and imagery across the battlefield Network using Standard Army Radios. This enables the Current Force and Modular Force with the ability to</p>									

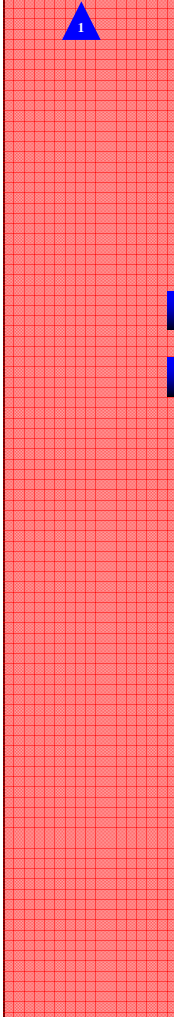











ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)		February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev		PROJECT L70	
cross-cue sensors that are linked to the network as well as share/exploit imagery and data from networked sensors on the battlefield.				
This project develops the Driver's Vision Device (DVD) - leveraging Commercial Off-The-Shelf (COTS) available hardware to demonstrate and qualify a "Low Cost, lower Performance" configuration of the Driver's Vision Enhancer (DVE).				
FY 2007 funding supports continuation of efforts for: Uncooled B-kit, Unattended Ground Sensor and Unmanned Air Vehicle (UAV) Electro-Optical/Infrared/Laser Designator (EO/IR/LD) Payloads developments; spirals in RSTA technologies from FCS into the Current Force; and continues evolution of Sensor Link Protocol.				
<u>Accomplishments/Planned Program</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
Continue Sensor Link Protocol (SLP) as part of the DoD Joint Variable Message Format (JVMF) standard while maintaining configuration management and modifying application software tools. Sensor Link Protocol (SLP)/Sensor Architecture - A uniform and standard means of describing and coordinating the collection, preprocessing, communication, and fusion of RSTA functions for the Future Force and FCS. FY06/07 provides additional refinement of SLP in support of FCS architecture and new Current Force/Modular Force requirements.	435	340	340	
Uncooled B-Kit (UBK)- Continues development of the uncooled thermal B-Kit for platform sensors, navigation systems and target acquisition devices. Funds the Risk Reduction Demonstration (RRD) for B-Kit development on the first UBK configuration. FY05 supported awards to multiple (3) vendors. FY06/FY07 completes the RRD phase and qualifies the detector in candidate systems.	5583	2091	1454	
Unattended Ground Sensors (UGS) - Develop ISR, Chemical, Biological, Radiological, Nuclear (CBRN) and Urban UGS for FCS and other Army customers. Funds continue spiral integration efforts to include sensor systems remote employment capabilities. Demonstrate viability and technical feasibility of remotely employing a networked Unattended Ground Sensors (UGS) system from a UAV delivery platform. Demonstration will look at achieving required accuracies for dispensing UGS from a UAV at various altitudes in support of mission scenario objectives.	1250	1640	825	
Third Generation FLIR (3rd Gen FLIR) System Development and Demonstration (SDD) of 3rd Gen FLIR. FY07 initiates development and qualification of a 3rd Gen FLIR engine (or "B-Kit") for use in current and Future Force high performance RSTA systems. This 3rd Gen FLIR will provide increased capability for: the Long Range Advanced Scout Surveillance System (LRAS3), the Stryker Mast Mounted Sensor, the Armed Reconnaissance Helicopter (ARH), the FCS Medium and Long Range Sensors, and other RSTA applications.	0	0	7080	
Development of payloads for the Army's UAV in accordance with TRADOC priorities and in support of FCS. This effort provides an EO/IR payload with an integrated laser designator for use in FCS Class 3 and 4 UAVs. This effort is a joint program with PM Close Combat Support (CCS), expanding the capability of the Airborne Surveillance Target Acquisition and Minefield Detection System (ASTAMIDS) by adding the designator.	347	950	1750	
Ground Moving Target Indicator (GMTI) Radar - complete productization and testing of improved performance radar. Improvements include reduced size and weight, material updates, and operational mode expansion. FY05 fully funds reliability testing that started in 4QFY05.	1080	0	0	
Sense Thru The Wall (STTW) Stand-Off/Unmanned - Transition STTW technology from D131, applying it to Unmanned Vehicle applications to provide a Stand-off Sense-Through-The-Wall capability.	0	0	3886	
Persistent Surveillance and Dissemination System-of-Systems (PSDS2) is operational in OIF. Efforts entail integrating technological	10481	4651	0	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)							February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev					PROJECT L70		
improvements in all associated sensors where feasible; developing an interoperability linkage with DCGS and CRAM programs; improving the current architecture; updating information assurance through migration to version 6.4; improving tools to facilitate the dissemination of video and imagery; acquiring Central Technical Support Facility (CTSF) validation where required; improving UAV exploitation to accommodate multiple types of UAV data made available to the warfighter; ensuring Army Battlefield Command System (ABCS) 6.4 compliance; and, integrating Rapid Aerostat Initial Deployment (RAID) system high definition cameras to facilitate the processing of video signals along with other system enhancements and/or fixes.										
LRAS3 Netted Sensor - Development, integration, and testing of hardware and software that supports digital compression, transmission and display of imagery and data to/from the battlefield network. This enable the Current Force and Modular Force with the ability to cross-cue sensors that are linked to the network as well as share/exploit imagery and data from networked sensors on the battlefield.			0		3219		0			
Driver's Vision Device (DVD) - The effort leverages Commercial Off-The-Shelf (COTS) available hardware to demonstrate a "Low Cost, lower Performance" configuration of the Driver's Vision Enhancer (DVE).			0		500		1762			
Total			19176		13391		17097			
<u>B. Other Program Funding Summary</u>		FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Night Vision DVE K31300 OPA2		16336	19748	43041	38373	30950	25392	25412	CONT	CONT
Future Combat System, G86100 WTCV		0	0	0	170104	334124	1545296	3682551	CONT	CONT
Advanced TUAV Payloads B00302 OPA2		0	41647	33328	39215	20285	25867	34282	CONT	CONT
<u>C. Acquisition Strategy</u> The development programs in this project are currently based on competitive awards and under cost reimbursement type contracts.										

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev								PROJECT L70	
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
DVE Development	C/CPIF	Various	21831	0		0		0		0	21831	0
Modular HTI Multifunction Laser Activities	C/CP	Insight Technologies, Londonderry, NH & DRS Technologies, Torrence, CA	3868	0		0		0		0	3868	0
LLDR RAPT	C/CP	Various	4253	0		0		0		0	4253	0
Light Forward Observer Optics	C/CP	Various	1258	0		0		0		0	1258	0
Thermal Upgrades for DVE (Dual wavelength) and competition	C/CP	Kaiser Electric San Diego, CA, Various	3608	0		0		0		0	3608	0
LLDR Advanced Demonstration System	C/CP	Litton Laser, Apopka, FL	2556	0		0		0		0	2556	0
Sensor Architecture/Digital RSTA/SLP	C/CPIF & C/CP	Various	10753	435	1Q	340	2Q	340	1Q	Continue	Continue	0
Various Prototypes and Studies	C/CPIF	Various	2947	0		0		0		0	2947	0
Thermal Upgrades for TWS (target location)	C/CP	Raytheon, El Segundo, CA, Various	5811	0		0		0		0	5811	0
HTI Laser Trade Studies	C/CP	Various	1020	0		0		0		0	1020	0
Enhanced NVG Analysis & Design (TX to DL67)	C/CP	Various	4782	0		0		0		0	4782	0
HTI Laser MFS3 design and prototype activities	C/CPIF	Raytheon, Dallas, TX	565	0		0		0		0	565	0
MANTECH Focal Plane Array and optics	C/CP	Raytheon, Dallas, TX	1500	0		0		0		0	1500	0
Digital MELIOS Design & Fabrication	C/FP	Litton Lasers, Inc.	1000	0		0		0		0	1000	0
AN/TMQ-41 Trade Studies and related activities	C/CP	Various	1232	0		0		0		0	1232	0
Image Fusion for DVE	C/CP	Raytheon, Dallas, TX	1274	0		0		0		0	1274	0
Digital RSTA SDD	C/CP	Booz-Allen Hamilton, Tysons Conner, VA	2190	0		0		0		0	2190	0

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev							PROJECT L70		
CIRISS Efforts	C/CP	Various	1500	0		0		6076	1Q	0	6076	0
LLDR Vehicle applications	C/CP	Litton Laser, Apopka, FL Various	3487	0		0		0		0	3487	0
FLIR develop/integrate	Various	Various	1731	0		0		0		0	1731	0
Uncooled B-Kit	Various	Various	1555	5189	4Q	1674	2Q	743	1Q	Continue	Continue	0
EO/IR/LD UAV Payloads	C/CP	Lockheed Martin	1783	0		712	2Q	1505	1Q	Continue	Continue	0
LLDR EMD	C/CP	Litton Lasers, Apopka, FL	19873	0		0		0		0	19873	0
GMTI Radar	C/FP & CP	General Atomics	1712	1080	2-3Q	0		0		0	1712	0
UGS	CP/FFP	Various	708	0		0		0		0	708	0
FCS UGS / UGS	C/CP	FCS Boeing/Textron/Various /TBD	3375	332	1Q	790	2Q	0		Continue	Continue	0
STTW Stand-Off/Unmanned	C/CP	TBS	0	0		0		3396	1Q	Continue	Continue	0
PSDS2 Efforts	C/CPFF	Various	0	8070	2-3Q	3681	2Q	0		0	11751	0
LRAS 3	SS/CP	Network Centrics, McKinney Texas	0	0		2471	3Q	0		0	0	0
DVD (DVE Light)	C/CP	CACI	0	0		238	3Q	1440	3Q	Continue	Continue	0
Subtotal:			106172	15106		9906		13500		Continue	Continue	0
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Various	14341	1007	1Q	1925	1-2Q	2753	1Q	Continue	Continue	0
Matrix Support	MIPR	NVESD	0	720	2Q	0		0		0	720	0
Matrix Support	MIPR	TRADOC	0	400	2Q	0		0		0	400	0
Matrix Support	MIPR	Various	0	231	2Q	0		0		0	231	0
Subtotal:			14341	2358		1925		2753		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev						PROJECT L70		
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
DT/IOT&E*	MIPR	ATEC	8769	0		0		0		0	8769	0
Other Test Support*	MIPR	Various	4366	845	2Q	735	3Q	405	2Q	Continue	Continue	0
Subtotal:			13135	845		735		405		Continue	Continue	0
Remarks: * Includes PSDS2, UGS, STTW, 3GF and other sensor test and evaluation activities. Includes PSDS2 and FCS UGS test and evaluation.												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Management	In house support	PM, NV/RSTA, Fort Belvoir, VA & Ft. Monmouth, NJ	4628	867	1-4Q	825	1-4Q	439	1-4Q	Continue	Continue	0
Subtotal:			4628	867		825		439		Continue	Continue	0
Project Total Cost:			138276	19176		13391		17097		Continue	Continue	0

Schedule Profile (R4 Exhibit)																	February 2006																			
BUDGET ACTIVITY					PE NUMBER AND TITLE																	PROJECT														
5 - System Development and Demonstration					0604710A - Night Vision Systems - Eng Dev																	L70														
Event Name					FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11							
					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				
(1) SLP Sensor Architecture JVMF Standard																																				
STTW Unmanned/Stand- Off MS B/SDD																																				
(2) Foliage Penetration MS B																																				
FOPEN SDD																																				
Uncooled B Kit (UBK) Phase II RRD																																				
UBK RRD Qualification Demo Phase II																																				
UGS Dispensing/Development																																				
PSDS2 Improvements Incorporated																																				
3GF SDD																																				
3GF SDD																																				
LRAS3 Netted Sensor Development & Demonstration																																				
DVD MS Decision																																				

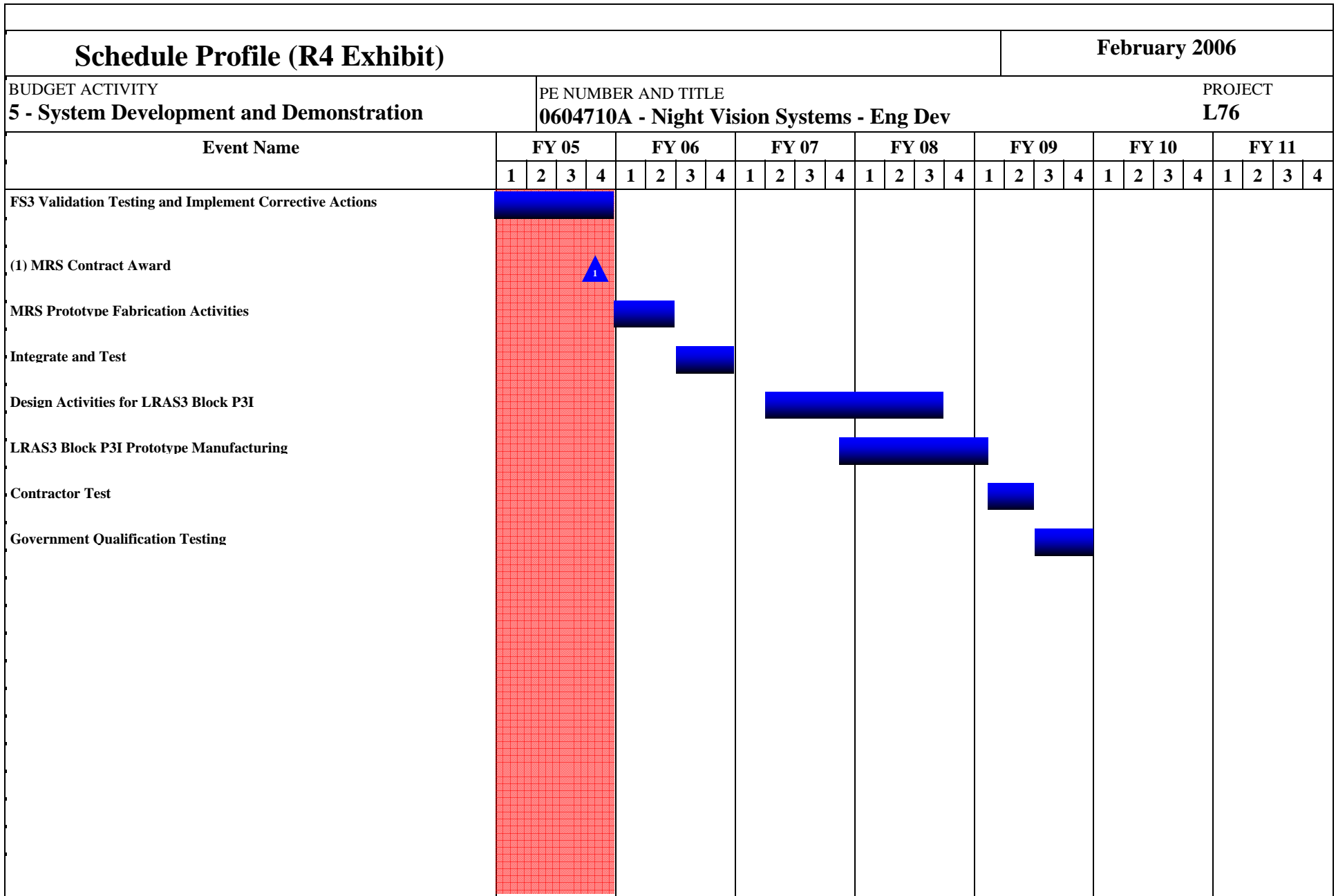
Schedule Detail (R4a Exhibit)						February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev			PROJECT L70	
<u>Schedule Detail</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Sensor Link Protocol (SLP) Architecture - JVMF Standard	2Q						
Uncooled B-Kit Risk Reduction Demonstration Phase II	4Q	1-4Q	1-2Q				
Foliage Penetration (FOPEN) MS B for FCS Block II					2Q		
FOPEN SDD					2-4Q	1-4Q	
Sense Through the Wall (STTW) SDD			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Persistent Surveillance and Dissemination System-of-Systems (PSDS2) Award	2Q						
PSDS2 DT/OT	3Q						
PSDS2 IOC (OPA Funded)	3Q						
PSDS2 Improvements		3-4Q					
3GF SDD			2-4Q	1-4Q	1-4Q		
UGS Dispensing Development		2-4Q	1-2Q				
LRAS3 Netted Sensor Development		2-4Q	1Q				
DVD Industry Assessment		2-4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)								February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev					PROJECT L76	
COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
L76 Long Range Advanced Scout Surveillance System - FS	3278	0	4650	19031	8280	0	0	0	54749
<p><u>A. Mission Description and Budget Item Justification:</u> The Army's mounted Fire Support and Combat Observation Lasing Teams (COLT) require a day/night targeting sensor that can detect, observe, and pinpoint the locations of threats for attack. The sensor must be able to determine the precise target location of the target and digitally transfer this information, or laser designate the target for precision engagement by laser-guided munitions.</p> <p>This target acquisition common sensor system will combine the long-range surveillance and targeting capabilities of the Army's Long Range Advanced Scout Surveillance System (LRAS3) with the laser designation capabilities of the Lightweight Laser Designator Rangefinder's Laser Designation Module (LDM). RDT&E funding is required to design and develop a Block Pre-Planned Product Improvement (P3I) for the LRAS3. In addition to the design activities, sufficient prototype systems will be produced to support testing and other pre-production activities. The system significantly increases the observation and target engagement capabilities over that provided by the current first generation equipment, AN/TAS-4 Night Sight and Ground/Vehicular Laser Locator Designator (G/VLLD).</p> <p>FY07 begins the Block P3I design and development activities and initiates prototype development.</p>									
<u>Accomplishments/Planned Program</u>						<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
Conduct Qualification Validation Test and implement corrective actions on integration of the LDM with the LRAS3						842	0	0	
Fabricate Multi-platform Replacement Sight (MRS) prototypes						1333	0	0	
MRS Integration and test						1103	0	0	
Initiate design and development activities for the LRAS3 Block P3I program.						0	0	4366	
Initiate fabrication of 11 prototypes.						0	0	284	
Total						3278	0	4650	
<u>B. Other Program Funding Summary</u>	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
LRAS3 K38300 OPA2	102625	41769	179594	168279	201498	161935	103041	0	958741

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)		February 2006
BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev	PROJECT L76
<p><u>C. Acquisition Strategy</u> The development of a Block P3I for the Long Range Advanced Scout Surveillance System will be executed through a Sole Source Cost Plus Fixed Fee (CPFF) award to Raytheon Inc.</p>		

ARMY RDT&E COST ANALYSIS (R3)										February 2006		
BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604710A - Night Vision Systems - Eng Dev							L76		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
FS3 Development	SS/T&M	Raytheon Inc., McKinney TX	2346	0		0		0		0	2346	0
FS3 Development	SS/CPFF	Raytheon Inc., McKinney, TX	7380	0		0		0		0	7380	0
FS3 Development	SS/FFP	Raytheon, Inc., McKinney, TX	1312	842	1Q	0		0		0	2154	0
Multi-Platform Replacement Sight (MRS)	SS/CPFF	Penn State Univ EOC, PA	6028	1908	4Q	0		0		0	7936	0
LRAS3 Block P3I	SS/CPFF	Raytheon, Inc., McKinney, TX	0	0		0		2858	2Q	Continue	Continue	0
Subtotal:			17066	2750		0		2858		Continue	Continue	0
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	NVESD, CECOM, Other	1083	223	1Q	0		689	1Q	Continue	Continue	0
Subtotal:			1083	223		0		689		Continue	Continue	0
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
ATEC Planning and Preparation	MIPR	ATEC	215	0		0		0		0	215	0
Subtotal:			215	0		0		0		0	215	0

ARMY RDT&E COST ANALYSIS (R3)									February 2006			
BUDGET ACTIVITY 5 - System Development and Demonstration				PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev							PROJECT L76	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Management	In House	PM NV/RSTA, Fort Belvoir VA	1755	305	1Q	0		1103	1Q	Continue	Continue	0
Subtotal:			1755	305		0		1103		Continue	Continue	0
Project Total Cost:			20119	3278		0		4650		Continue	Continue	0



Schedule Detail (R4a Exhibit)						February 2006	
BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604710A - Night Vision Systems - Eng Dev			PROJECT L76	
<u>Schedule Detail</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
FS3 Validation Testing and Implement Corrective Actions	1-4Q						
MRS Prototype Fabrication Activities		1-2Q					
MRS Integrate and Test		3-4Q					
Design Activities for LRAS3 Block P3I			2-4Q	1-3Q			
LRAS3 Block P3I Prototype Manufacturing			4Q	1-4Q	1Q		
Contractor Testing					1-2Q		
Government Qualification Testing					3-4Q		