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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604710A / Night Vision Systems - Eng Dev
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	58.997	67.582	84.519	-	84.519	88.129	100.883	73.394	47.301	Continuing	Continuing
EQ9: Close Access Target Reconnaissance (CATR)	-	0.000	1.656	1.173	-	1.173	0.000	0.000	0.000	0.000	0.000	2.829
L67: Soldier Night Vision Devices	-	14.151	20.440	26.257	-	26.257	14.690	19.194	19.649	18.643	Continuing	Continuing
L70: Night Vision Dev Ed	-	18.689	27.696	40.368	-	40.368	55.764	53.289	37.141	15.770	Continuing	Continuing
L75: Profiler	-	1.655	2.108	3.885	-	3.885	3.705	3.421	3.573	1.956	0.000	20.303
L76: Dismounted Fire Support Laser Targeting Systems	-	4.912	4.662	5.778	-	5.778	6.131	14.472	5.221	5.410	Continuing	Continuing
L79: Joint Effects Targeting Systems (JETS)	-	19.590	11.020	7.058	-	7.058	7.839	10.507	7.810	5.522	Continuing	Continuing

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 EQ9 focuses on a kit of electronic devices that acquires, collects, and transmits data to provide near real time feedback in order to validate, follow, locate, or track a target (i.e., tagging, tracking, and locating (TTL)). Using electronic audio and/or video recorders, information obtained will validate movement and identify targets. In addition, threat monitoring can be integrated into existing operational tools, help to paint a clearer picture of the battlefield, pinpoint possible target locations, and identify and exploit enemy movements and patterns. CATR has been fielded since 2005 as a Quick Reaction Capability (QRC) program.

Project L67 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 adapting demonstrated technologies that bring improvements to the dismounted Soldiers' equipment. This project develops or enhances equipment that provides the individual Soldier's 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. Includes associated with efforts for integration and interface of products on Soldiers' head, body, and weapons.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	
<p>Project L70 focuses on night vision, reconnaissance, surveillance and target acquisition (RSTA) sensor and suites of sensors to provide well-defined surveillance and targeting capabilities for a variety of Current, Modular, and Future Force platforms. This project includes: 3rd Generation Forward Looking Infra-Red (3GEN FLIR) B-Kit development activities, the 3GEN Long Range Advanced Scout Surveillance System (LRAS3) Engineering Change Proposal (ECP) to integrate 3GEN FLIR B-Kit, and the Assistant Secretary of the Army for Acquisition, Logistics, and Technology ASA(ALT) Common Operating Environment (COE) effort to meet sensor interoperability requirements and improve the soldier-machine interface of the Program of Record (POR).</p> <p>Project L75 focuses on development of Profiler Block enhanced capabilities for meteorological (MET) measurement sensors and data. Improvements have reduced the footprint (less soldiers/vehicles) and complexity of the system, improved performance (accuracy), improved survivability, connectivity, no balloon sensor, multiple initialization data, and terrain visualization. The improved MET message data will increase lethality by enabling artillery a greater probability of first round hit with indirect fire systems. Profiler Block III provides a networked laptop configuration while further reducing the system's logistics footprint with the elimination of the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) mounted shelter and trailer located in the Tactical Operations Center (TOC). The Profiler Virtual Module (PVM), a product improvement to the Block III, concept includes the following updates: update of weather model; update of software architecture removing legacy Block I code and creating a modular framework; development in conjunction with the Advanced Field Artillery Tactical Data System (AFATDS) program including AFATDS version II, to provide increased interoperability and usability; and to enable operation of the Profiler system in a virtual machine for use in the Common Operating Environment (COE) versions 2,3,4,and 5. This concept is a flexible approach that supports use of existing Block III hardware, increased accuracy during technical refresh of hardware with higher performance computers, and virtualization on the Command Post Computing Environment (CP CE) server.</p> <p>Project L76 matures technologies and capabilities which benefit the Lightweight Laser Designator Rangefinder (LLDR, AN/PED-1, AN/PED-1A, and AN/PED-1B), Joint Effects Targeting System (JETS), and other precision targeting systems. These precision targeting and next generation systems are used by dismounted Soldiers to locate, identify, and target enemy assets. This project focuses on reducing weight, improving imaging performance, and increasing targeting accuracy. Targeting accuracy improvements will focus on developing and integrating affordable, non-magnetic, high accuracy, full-time (24/7), and all weather Azimuth and Vertical Angle Measurement (AVAM) devices, with reduced size, weight and power characteristics into the LLDR system. Long term goals include improving current celestial navigation systems to increase operational availability, developing precision targeting capabilities that will operate in a Global Positioning System (GPS) denied environment, and integration of M-Code GPS (next generation GPS) receivers into LLDR and JETS, when available.</p> <p>Project L79 focuses on the Joint Effects Targeting System (JETS). JETS is an Army program with joint information (Air Force and Marine Corps). JETS will meet the one-man, hand-held precision targeting gap identified by the Fire Center of Excellence (FCOE). JETS is a light-weight, handheld system that will provide the single dismounted observer and Joint Terminal Attack Controller (JTAC) with a common, enhanced day and night thermal capability to rapidly acquire, accurately locate, positively identify, and precisely designate targets. JETS Target Location and Designation System (TLDS) will be able to interface with existing and future Service Forward Entry Systems (FESS). After initiating JETS TLDS production, this project will address continued development and integration of improved precision targeting components to reduce size, weight, power, and cost of the system, to address operation in environments where GPS is denied, and to integrate M-code GPS receivers when they become available.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army	Date: February 2016
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>
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B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	65.299	67.582	71.280	-	71.280
Current President's Budget	58.997	67.582	84.519	-	84.519
Total Adjustments	-6.302	0.000	13.239	-	13.239
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-6.302	-	13.239	-	13.239

Change Summary Explanation

Fiscal Year 2017: Program increases of \$6.187 million to Project L67 for Soldier Night Vision Devices, \$7.265 million for L70 Night Vision Dev Ed, and \$0.586 million to EQ9 for CATR evaluation and testing of new technology. Program decreases of -\$0.286 million to L79 Joint Effects Targeting Systems (JETS), -\$0.269 million to L76 Dismounted Fire Support Laser Targeting Systems, and -\$0.244 million to L75 Profiler.

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>				Project (Number/Name) EQ9 / <i>Close Access Target Reconnaissance (CATR)</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
EQ9: <i>Close Access Target Reconnaissance (CATR)</i>	-	0.000	1.656	1.173	-	1.173	0.000	0.000	0.000	0.000	0.000	2.829
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

CATR is a kit of electronic devices that acquires, collects and transmits data to provide near real time feedback in order to validate, follow, locate, or track a target (i.e., tagging, tracking, and locating (TTL)). CATR will use electronic audio and/or video recorders to obtain information which is used to validate movement and identify targets. In addition, CATR allows for threat monitoring that can be integrated into existing operational tools, help to paint a clearer picture of the battlefield, pinpoint possible target locations, and identify and exploit enemy movements and patterns. CATR has been fielded since 2005 as a Quick Reaction Capability (QRC) program.

FY 2017 Base development dollars in the amount of \$1.173 million is to conduct evaluation and testing of emerging commercial off-the-shelf equipment, devices and capabilities of new CATR technology for Army utilization.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: Close Access Target Reconnaissance (CATR) Post Milestone C/Fielding Decision	-	1.656	1.173
Description: Prepare for Post Milestone C/Fielding Decision by conducting a Customer Test and prepare acquisition documentation.			
FY 2016 Plans: In order for CATR to obtain a Post Milestone C/Fielding Decision in FY2016, a Customer Test will be conducted by the Army Test & Evaluation Command (ATEC). Funding is also to secure the type classification of the CATR Basic Set, participate in the logistics demonstration, review Customer Test report, develop life cycle sustainment plan, and develop acquisition documents for a Post Milestone C/Fielding Decision.			
FY 2017 Plans: New technology will be evaluated and tested in order to support technology refresh in the Production & Deployment phase in FY2018.			
Accomplishments/Planned Programs Subtotals	-	1.656	1.173

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) EQ9 / <i>Close Access Target Reconnaissance (CATR)</i>

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Close Access Target Reconnaissance: <i>Close Access Target Reconnaissance (CATR) (B10002)</i>	-	8.010	7.970	-	7.970	8.050	7.999	8.064	9.830	Continuing	Continuing

Remarks

D. Acquisition Strategy

Based on a successful Materiel Development Decision (MDD) in September 2015, the Milestone Decision Authority designated the CATR program as a post-Milestone C Acquisition Category (ACAT) III program at the Production and Deployment phase. After a successful Fielding decision planned for 4th Quarter FY2016, CATR will utilize Quick Reaction Capability (QRC) equipment to refresh, re-kit existing, and field sets/systems in the Brigade Combat Teams (BCTs).

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604710A / Night Vision Systems - Eng Dev				EQ9 / Close Access Target Reconnaissance (CATR)							
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management	MIPR	PdM GS, : Ft Belvoir, VA	0.000	-		0.146	Nov 2015	0.085	Jan 2017	-		0.085	0	0.231	0
Subtotal			0.000	-		0.146		0.085		-		0.085	0.000	0.231	0.000
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Evaluate new CATR technology	TBD	Various : Various	0.000	-		-		0.765	Mar 2017	-		0.765	0	0.765	0
Subtotal			0.000	-		-		0.765		-		0.765	0.000	0.765	0.000
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Post MS C/ Fielding Decision Prep	C/FP	PdM GS, : Ft Belvoir, VA	0.000	-		0.442	Dec 2015	-		-		-	0	0.442	0
Subtotal			0.000	-		0.442		-		-		-	0.000	0.442	0.000
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Customer Test	MIPR	ATEC : APG, MD	0.000	-		1.068	Nov 2015	-		-		-	0	1.068	0
Test new CATR Technology	MIPR	ATEC : APG, MD	0.000	-		-		0.323	Apr 2017	-		0.323	0	0.323	0
Subtotal			0.000	-		1.068		0.323		-		0.323	0.000	1.391	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army								Date: February 2016			
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>			Project (Number/Name) EQ9 / <i>Close Access Target Reconnaissance (CATR)</i>					
	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	0.000	-	1.656	1.173	-	1.173	0.000	2.829	0.000		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) EQ9 / <i>Close Access Target Reconnaissance (CATR)</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Customer Test																												
(1) Post Milestone C/Fielding Decision									▲																			
Test Report & Acquisition Documentation																												
Evaluate and test new CATR technology																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) EQ9 / <i>Close Access Target Reconnaissance (CATR)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Customer Test	2	2016	3	2016
Post Milestone C/Fielding Decision	3	2016	3	2016
Test Report & Acquisition Documentation	3	2016	4	2016
Evaluate and test new CATR technology	2	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>				Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
L67: <i>Soldier Night Vision Devices</i>	-	14.151	20.440	26.257	-	26.257	14.690	19.194	19.649	18.643	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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 adapting demonstrated technologies that bring improvements to the dismounted Soldiers' equipment. This project develops or enhances equipment that provides the individual Soldier's 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. Includes cost associated with efforts for integration and interface of products on Soldiers head, body and weapons.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
<p>Title: Enhanced Night Vision Goggle (ENVG)</p> <p>Description: The AN/PSQ-20 ENVG is a helmet-mounted passive device for the individual Soldier that fuses image intensification (night vision) and long wave infrared imagery (thermal) into a single, integrated image. It operates in high light conditions to total darkness (no light) and through battlefield obscurants.</p> <p>FY 2015 Accomplishments: Completed production qualification testing for multiple (AN/PSQ-20) new contracts.</p>	1.398	-	-
<p>Title: Family of Weapons Sights (FWS)</p> <p>Description: FWS is a family of weapon sights that enable combat forces to acquire and engage targets with small arms and to conduct surveillance and fire control under day/night obscurants, no-light, and adverse weather conditions. The family utilizes advancements in thermal and low light level sensors to produce Individual (I), Crew-Served (CS), and Sniper (S) weapon sights operable in-line with a day optic or in stand-alone mode. This project integrates smaller pixel focal plane arrays in multiple large format sizes to improve sensitivity, clarity, and range, while simultaneously reducing the size, weight and power consumption of both the Crew-Served and Sniper variants. The FWS-I variant is a weapon mounted long-wave infrared sensor that enables Soldiers to fire quickly and accurately from any carry position and with significantly reduced exposure to enemy fire by providing a wireless zeroed weapon aimpoint in the Soldier's goggle. Leveraging the success of the Individual variant development, the FWS-CS variant operates as the primary sight; it includes a wireless Helmet Mount Display (HMD) and provides the Soldier with input from a laser rangefinder device; resulting in a more accurate aimpoint that adjusts automatically for range, ammunition characteristics, and vertical angle. The FWS-S variant mounts in-line with the Sniper's direct view optic providing a thermal</p>	12.253	19.940	26.257

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
<p>imagery capability to the host weapon at the weapon's maximum effective range, plus 20% overmatch. FWS-S provides Snipers a large format display with increased pixel density that enables accurate long range engagements while maintaining day sight, extending the lethality and providing exceptional observation.</p> <p>FY 2015 Accomplishments: Funded initial requirements for the FWS-I Engineering, Manufacturing and Development (EMD) phase.</p> <p>FY 2016 Plans: Complete Government and Contractor testing of FWS-I EMD systems in support of Milestone C, 4QFY16. Initiate FWS-CS and FWS-S EMD to design, build and deliver prototype systems for Government and Contractor testing. Improve the manufacturing process of uncooled Focal Plane Arrays (FPA) and micro-Organic Light-Emitting Diode (OLED) displays that are key components of FWS.</p> <p>FY 2017 Plans: Continue FWS-CS and FWS-S EMD to design, build and deliver prototype systems for Government and Contractor testing. FWS-I continue testing for re-compete. Improve the manufacturing process of uncooled Focal Plane Arrays (FPA) and micro-Organic Light-Emitting Diode (OLED) displays that are key components of FWS.</p>				
<p>Title: Small Tactical Optical Rifle Mounted (STORM) Engineering Change Proposal (ECP)</p> <p>Description: The AN/PSQ-23 STORM Micro-Laser Range Finder (MLRF) is a weapon-mounted multi-function laser system. It provides an eye safe laser range finder, digital compass, Infrared (IR) and visible aiming lights, and an IR illuminator for far target location with continuous range, accuracy, weight and power performance enhanced capabilities. Funding supports qualifying smaller, lighter, cheaper STORM variant (STORM SLX) with Soldiers.</p> <p>FY 2015 Accomplishments: Qualification tests for ECP units.</p>		0.500	-	-
<p>Title: Laser Target Locator Module (LTLM)</p> <p>Description: LTLM is a lightweight, handheld, laser target locator with day and thermal sight capability as well as an internal Global Positioning System (GPS) receiver. LTLM provides the dismounted observer or Scout a fully digital, handheld system to accurately determine target location and the ability of call for fire during all weather and lighting conditions.</p> <p>FY 2016 Plans: Conduct Government Developmental and Operational Testing for LTLM II at White Sands Test Center.</p>		-	0.500	-
Accomplishments/Planned Programs Subtotals		14.151	20.440	26.257

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2017</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• 603774A VT7: 603774A - <i>Night Vision Systems Advanced Development (VT7)</i>	3.521	7.292	10.321	-	10.321	13.856	4.729	6.779	6.828	Continuing	Continuing
• <i>Helmet Mounted Enhanced Vision Devi: Helmet Mounted Enhanced Vision Devices (HMEVD) (SSN K36400)</i>	97.805	97.968	131.946	-	131.946	129.871	78.379	91.449	62.161	Continuing	Continuing
• <i>Family of Weapons Sights - Inividid: Family of Weapons Sights - Individual (FWS-I) (SSN K22002)</i>	2.000	53.453	55.536	-	55.536	75.006	88.491	102.759	2.685	Continuing	Continuing
• <i>Small Tactical Optical Rifle Mounte: Small Tactical Optical Rifle Mounted (STORM) (SSN K35110)</i>	18.520	23.216	15.885	-	15.885	22.979	23.846	27.633	24.216	Continuing	Continuing
• <i>Laser Target Locators: Laser Target Locators (LTL) (SSN B53800)</i>	5.851	26.248	31.083	-	31.083	22.876	19.627	21.802	21.843	Continuing	Continuing

Remarks

D. Acquisition Strategy

The various developmental programs in this project continue to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PROGRAM MGMT	MIPR	Various : Various	1.874	1.038	Dec 2014	3.619	Feb 2016	3.087	Feb 2017	-		3.087	Continuing	Continuing	0
Subtotal			1.874	1.038		3.619		3.087		-		3.087	-	-	0.000

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Family of Weapon Sights-Individual (FWS-I)	C/CPFF	DRS RSTA, Inc BAE Systems : Dallas, TX/Nashua, NH	24.320	9.076	Mar 2015	1.140	Apr 2016	-		-		-	0	34.536	0
Family of Weapon Sights-Crew Served (FWS-CS)	C/CPFF	Various : Various	0.000	-		6.539	Apr 2016	14.465	Dec 2016	-		14.465	Continuing	Continuing	0
Family of Weapon Sights-Sniper (FWS-S)	C/CPFF	Various : Various	0.000	-		6.080	Jul 2016	4.122	Dec 2016	-		4.122	Continuing	Continuing	0
Subtotal			24.320	9.076		13.759		18.587		-		18.587	-	-	0.000

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Matrix Support	MIPR	NVESD : Ft Belvoir, VA	2.547	1.648	Dec 2014	1.328	Feb 2016	1.549	Feb 2017	-		1.549	Continuing	Continuing	0
Subtotal			2.547	1.648		1.328		1.549		-		1.549	-	-	0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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 Production Qualification Testing (PQT)	PQT																											
(1) FWS-I MS C																												
(2) FWS-CREW SERVED (CS) MS B																												
FWS-CS Engineering and Manufacturing Development																												
(3) FWS-CS MS C																												
(4) FWS-SNIPER (S) MS B																												
FWS-S Engineering and Manufacturing Development																												
(5) FWS-S MS C																												
LTLM II Development and Operational Testing																												
STORM Production Qualification Testing (PQT)																												
FUSED VISION MOBILITY CAPABILITY																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L67 / <i>Soldier Night Vision Devices</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ENVG Production Qualification Testing (PQT)	3	2014	3	2015
FWS-I MS C	4	2016	4	2016
FWS-CREW SERVED (CS) MS B	2	2016	2	2016
FWS-CS Engineering and Manufacturing Development	3	2016	4	2018
FWS-CS MS C	4	2018	4	2018
FWS-SNIPER (S) MS B	2	2016	2	2016
FWS-S Engineering and Manufacturing Development	2	2016	2	2018
FWS-S MS C	3	2018	3	2018
LTLM II Development and Operational Testing	1	2017	1	2017
STORM Production Qualification Testing (PQT)	3	2016	3	2016
FUSED VISION MOBILITY CAPABILITY	3	2019	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>				Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
<i>L70: Night Vision Dev Ed</i>	-	18.689	27.696	40.368	-	40.368	55.764	53.289	37.141	15.770	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project performs Engineering and Manufacturing Development (EMD) 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. These efforts focus on meeting the requisite night vision and RSTA capabilities required for evolving Current Force, Modular Force, and Future Force systems.

The project supports the 3rd Generation Forward Looking Infrared (3GEN FLIR) B-Kit EMD program, which incorporates the next generation of forward looking infrared technologies. The 3GEN FLIR EMD program will leverage critical technology development from the Advanced Thermal Imaging EMD and Combat Vehicle Advanced Sensor Technology (CVAST) effort to develop a common 3GEN FLIR B-Kit for integration into US Army FLIR sensor systems in accordance with the approved Improved Forward Looking Infrared (I-FLIR) Capability Development Document (CDD). The common 3GEN FLIR B-Kit prescribed by the I-FLIR CDD will allow the Army to achieve economies of scale and avoid duplicative engineering and development costs. As a result, 3GEN FLIR capabilities can be delivered at a lower cost to the Abrams, Bradley, reconnaissance systems, and potentially leverage 3GEN FLIR components for airborne applications. The 3GEN FLIR B-Kit provides Mid Wave Infrared and Long Wave Infrared digital video and the electronic interfaces required to integrate the 3GEN FLIR technology with the host platform sensor. When integrated in current sensor packages, 3GEN FLIR technology enhances the war-fighters' survivability and lethality through increased identification range performance, while enabling the detection of difficult or obscured targets and faster threat detection through automated processes. The 3GEN FLIR B-Kit EMD program is also a key element in maintaining the Army's FLIR industrial base.

The project supports the Long Range Advanced Scout Surveillance System (LRAS3) Engineering Change Proposal (ECP) to integrate 3GEN FLIR B-Kit. The LRAS3 ECP effort includes integration of 3GEN FLIR B-Kit technology, an Inertial Measurement Unit (IMU), and an M-code Global Positioning System (GPS) receiver. Collectively, these capabilities will improve the Far Target Location (FTL) accuracy of the LRAS3 and enhance the scout's survivability and lethality through increased detection, recognition and identification range performance.

This project also executes the Army Sensor Computing Environment (CE) effort which is part of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA-ALT) Common Operating Environment (COE) program. The Sensor CE effort focuses on increasing sensor interoperability across the enterprise and improving the Soldier-machine interface. This is done by defining, demonstrating and standardizing Sensor interfaces across the Army networks. Standardized interfaces delivered from this effort will be incorporated into current and future sensor systems and programs.

FY 2017 Base Funding in the amount of \$40.368 Million supports the 3GEN FLIR B-Kit EMD program activities as well as the 3GEN LRAS3 performing trade studies to integrate 3GEN FLIR B-Kit, an Inertial Measurement Unit (IMU), and an M-code GPS receiver; and developing the performance specification and preparing solicitation

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>		
documentation. Additionally, FY 2017 Base Funding supports the continued activities associated with meeting sensor interoperability requirements and improving the Soldier-machine interface in support of the Army's vision of the Common Operating Environment (COE).				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2015	FY 2016	FY 2017
Title: 3GEN FLIR B-Kit Description: Development of 3GEN FLIR. 3GEN FLIR will represent the materiel solution in accordance with the I-FLIR CDD, resulting in a common sensor component for both Ground and Airborne host platforms. FY 2015 Accomplishments: FY 2015 Base Funding supports Development Request For Proposal Release Review (DRFPRR) and source selection activities. In support of (MSB), FY15 funding support will include comprehensive full sight performance trade studies, preparation of logistics documentation, test evaluation master plan documentation, and the program affordability analysis.		10.310	-	-
Title: 3GEN FLIR B-Kit Milestone Activities Description: 3GEN FLIR engineering and document preparation. FY 2016 Plans: FY 2016 Base Funding supports EMD engineering and logistics document preparation in support of a 2QFY16 Milestone B decision. Support includes preparation of core logistics analysis, system engineering plan, test and evaluation master plan, life cycle sustainment plan, and an independant logistics assessment.		-	6.303	-
Title: 3GEN FLIR B-Kit EMD Description: 3GEN FLIR EMD requirements and contract awards. FY 2016 Plans: FY 2016 Base Funding supports source selection activities, award of multiple contracts in support of 3GEN FLIR, and program management support. Contract awards will support development engineering activities and Preliminary Design Review (PDR). FY 2017 Plans: FY 2017 Base Funding supports the continuation of 3GEN FLIR development activities to include Critical Design Review (CDR), coding of software, the initiation of prototype manufacturing, platform Preliminary Design Review (PDR) support activities, and program management support.		-	16.554	37.212
Title: Common Operating Environment (COE) Description: This effort supports the Common Operating Environment vision by improving the sensor interoperability requirement and the Soldier-machine interface. Resultant improvements to be made on a program by program basis.		8.379	4.839	0.100

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p><i>FY 2015 Accomplishments:</i> FY 2015 Base Funding supports continued development of the COE program to include meeting the network interoperability requirement and improving the Soldier-machine interface. Specific FY15 activities include configuration management and specification development and implementation.</p> <p><i>FY 2016 Plans:</i> FY 2016 Base Funding supports continued development of the COE program to include meeting the network interoperability requirement and improving the soldier-machine interface. Specific FY16 activities include continuation of configuration management, specification development & implementation, and execution of demonstrations and experimentation for transition into Army programs.</p> <p><i>FY 2017 Plans:</i> FY 2017 Base Funding supports continued development of the COE program to include meeting the sensor interoperability requirement and improving the soldier-machine interface. Specific FY17 activities include continued execution of demonstrations and experimentation for transition into Army programs.</p>			
<p><i>Title:</i> 3GEN LRAS3 ECP to integrate 3GEN FLIR B-Kit</p> <p><i>Description:</i> This effort supports the sensor enhancement activities required to integrate 3GEN FLIR B-Kit technology into the LRAS3.</p> <p><i>FY 2017 Plans:</i> FY 2017 Base Funding supports performing trade studies to analyze the current LRAS3 for modification required to integrate 3GEN FLIR B-Kit, an Inertial Measurement Unit (IMU), and an M-code GPS receiver; and developing the performance specification and preparing solicitation documentation.</p>	-	-	3.056
Accomplishments/Planned Programs Subtotals	18.689	27.696	40.368

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• ABRAMS Tank Improvement Program: <i>Abrams Tank Improvement Program (PE 0203735A)</i>	98.596	77.603	78.452	-	78.452	95.679	108.621	57.829	45.036	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BRADLEY Improvement Program: <i>Bradley Improvement Program (PE 0203735A)</i>	73.294	73.775	101.882	-	101.882	73.514	89.118	118.893	67.738	Continuing	Continuing

Remarks

D. Acquisition Strategy

3GEN FLIR: Materiel Development Decision (MDD) was received from the Army Acquisition Executive (AAE) and the Acquisition Decision Memorandum (ADM) was signed on 22-Dec-2014. Per the ADM, 3GEN FLIR will enter the acquisition lifecycle at Milestone B (MS B). After a successful MS B decision planned for 2QFY16, competitive EMD contracts will be awarded to design, develop, integrate and test the 3GEN FLIR B-Kit to prepare for production and mitigate the industrial base risk. The host platforms will be responsible for integration of the 3GEN FLIR B-Kit.

3GEN LRAS3: After a Milestone Decision Authority (MDA) review planned for 2Q FY2017, 3GEN LRAS3 will perform technical trade studies to determine modifications required to the current LRAS3 to integrate 3GEN FLIR B-Kit technology, an Inertial Measurement Unit (IMU), and an M-coded Global Positioning System (GPS) receiver.

Sensor CE: Additional Fiscal Year 2017 activities include continued development of the sensor interoperability requirement and improving the Soldier-machine interface in support of the Army's vision of the Common Operating Environment (COE).

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management	MIPR	PM TS : Ft. Belvoir, VA	9.621	1.623	Feb 2015	1.623	Feb 2016	1.332	Jan 2017	-		1.332	0	14.199	9.454
Subtotal			9.621	1.623		1.623		1.332		-		1.332	0.000	14.199	9.454

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FY 2012-FY 2013: Develop, Fab, and Qual of a common Ground Platform Engine with Block II EOCCM	C/Variou	Various : Various	0.049	-		-		-		-		-	0	0.049	0
3GEN FLIR Engineering/ Document Prep	C/Variou	Various : Various	12.061	7.434	Mar 2015	3.307	Jan 2016	-		-		-	0	22.802	0
3GEN FLIR B-Kit EMD	C/CPIF	Various : Various	0.000	-		16.554	Mar 2016	34.150	Dec 2016	-		34.150	0	50.704	0
3GEN LRAS3: Tech Trade Studies	C/TBD	Various : Various	0.000	-		-		2.182	Mar 2017	-		2.182	0	2.182	0
PSS P3I: CE COE	C/FP	Various : Various	6.113	8.179	Mar 2015	4.639	Mar 2016	-		-		-	0	18.931	8.904
Subtotal			18.223	15.613		24.500		36.332		-		36.332	0.000	94.668	8.904

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
3GEN FLIR Support	C/TBD	Various : Various	27.524	1.253	Mar 2015	1.373	Mar 2016	1.930	Feb 2017	-		1.930	0	32.080	27.995
3GEN LRAS3 - Spec development and solicitation prep	C/TBD	Various : Various	0.000	-		-		0.674	Feb 2017	-		0.674	0	0.674	0
COE Support	C/CPFF	Various : Various	0.794	0.200	Mar 2015	0.200	Mar 2016	0.100	Feb 2017	-		0.100	Continuing	Continuing	0
Subtotal			28.318	1.453		1.573		2.704		-		2.704	-	-	27.995

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	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				
3GEN FLIR - Spec Development, Trade Studies, Analyses, & Milestones	[Redacted]																															
(1) 3GEN FLIR Materiel Development Decision (MDD)	▲																															
(2) 3GEN FLIR Development Request For Proposal Release Review (DR)		▲																														
(3) 3GEN FLIR B-Kit MS B						▲																										
3GEN FLIR B-Kit Development, Test, and Integration	[Redacted]								[Redacted]																							
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Perform Tech Trade S	[Redacted]												[Redacted]																			
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Spec Development &	[Redacted]												[Redacted]																			
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Test & Integration	[Redacted]																												[Redacted]			
Common Operating Environment, Development	[Redacted]								[Redacted]																							

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L70 / <i>Night Vision Dev Ed</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
3GEN FLIR - Spec Development, Trade Studies, Analyses, & Milestone Prep	1	2012	2	2016
3GEN FLIR Materiel Development Decision (MDD)	1	2015	1	2015
3GEN FLIR Development Request For Proposal Release Review (DRFPRR)	3	2015	3	2015
3GEN FLIR B-Kit MS B	2	2016	2	2016
3GEN FLIR B-Kit Development, Test, and Integration	2	2016	4	2021
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Perform Tech Trade Studies	2	2017	4	2017
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Spec Development & Solicitation	2	2017	2	2018
3GEN LRAS3 ECP to Integrate 3GEN FLIR B-Kit: Test & Integration	2	2021	4	2021
Common Operating Environment, Development	2	2012	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L75 / <i>Profiler</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
L75: <i>Profiler</i>	-	1.655	2.108	3.885	-	3.885	3.705	3.421	3.573	1.956	0.000	20.303
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Profiler Virtual Module (PVM) provides meteorological (MET) data that includes wind speed, wind direction, temperature, barometric pressure, and humidity information required for use in the Advanced Field Artillery Tactical Data System (AFATDS). The correctional information is necessary for precise targeting and terminal guidance to Field Artillery assets. PVM improves accuracy of predictive fires solutions and allows for first round effects on target and reduces the risk of fratricide. This capability increases the lethality of indirect fire systems such as the rocket launchers, self-propelled or towed howitzers, and mortars.

FY2017 Base funding in the amount of \$3.885 million supports the continued development of PVM to comply with Command Post Computing Environment (CP CE) Common Operating Environment (COE) version 3 requirements and upgrades to weather forecasting models.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
<p>Title: Profiler Virtual Module COE V2/3 development</p> <p>Description: Implementation of COE V2/3 requirements and Digital Terrain and Elevation Data (DTED) upgrades and improved elevation algorithms.</p> <p>FY 2015 Accomplishments: Implementation of COE V2 requirements and Digital Terrain and Elevation Data (DTED) upgrades and improved elevation algorithms.</p> <p>FY 2016 Plans: Completion of COE V2 requirements and Digital Terrain and Elevation Data (DTED) upgrades and improved elevation algorithms.</p> <p>FY 2017 Plans: Continue development for PVM in compliance with CP CE/COE V3</p>	0.805	1.158	2.635
<p>Title: Support cost for conversion of the MET model for Profiler Virtual Module</p> <p>Description: Conversion of the MET model for Profiler Virtual Module</p> <p>FY 2015 Accomplishments: Conversion of the MET model for Profiler Virtual Module and support for the implementation of Digital Terrain and Elevation Data (DTED) upgrades and improved elevation algorithms.</p> <p>FY 2016 Plans:</p>	0.350	0.650	0.650

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L75 / <i>Profiler</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
Engineering and development of PVM to receive the European weather data and compute meteorological data for Advanced Field Artillery Tactical Data System (AFATDS). FY 2017 Plans: Continued engineering and development of PVM for MET model upgrades.			
Title: Formal Qualification Testing/Developmental Testing (FQT/DT) Description: Conduct and complete FQT/DT FY 2015 Accomplishments: Conduct Formal Qualification Testing/Developmental Testing for PVM 1.0 FY 2017 Plans: Conduct Developmental Testing for PVM 1.0.1 for CP CE/COE V3	0.400	-	0.300
Title: Management Services Description: Cost for Project Management Office efforts. FY 2015 Accomplishments: Provide Program Management Office (PMO) efforts. FY 2016 Plans: Provide Program Management Office (PMO) efforts. FY 2017 Plans: Provide Program Management Office (PMO) efforts.	0.100	0.300	0.300
Accomplishments/Planned Programs Subtotals	1.655	2.108	3.885

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Profiler (K27900): <i>Profiler (K27900)</i>	3.115	4.057	-	-	-	0.375	-	-	-	0.000	7.547

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L75 / <i>Profiler</i>

D. Acquisition Strategy

The Profiler Acquisition Strategy was approved by the MDA on 28 March 2012 for a product improvement to the Profiler Block III for a Virtual Module supporting the Command Post Computing Environment of the Common Operating Environment (COE). PVM 1.0 was completed in FY15. PVM 1.0.1 reflects continued updates for weather model changes and to meet directed COE compliance.

The Profiler product was transitioned to PEO C3T per the transition plan signed by the Army Acquisition Executive (AAE) dated 14 May 2015. The APB dated 30 Sep 2010, reflecting efforts to develop Profiler Block 3, was closed out 3 Apr 2015.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604710A / Night Vision Systems - Eng Dev				L75 / Profiler							
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management	Sub Allot	PM Mission Command : APG, MD	2.893	0.100	Nov 2014	0.300		0.300		-		0.300	0	3.593	0
Subtotal			2.893	0.100		0.300		0.300		-		0.300	0.000	3.593	0.000
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Profiler Virtual Module COE V2/V3 development and data gathering	IA	SEC/C3T/FD : Ft. Sill, OK	0.000	0.805	Apr 2015	1.158		2.635		-		2.635	0	4.598	0
Subtotal			0.000	0.805		1.158		2.635		-		2.635	0.000	4.598	0.000
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Conversion of MET model for Profiler Virtual Module	MIPR	ARL, Various : WSMR, NM	1.757	0.350	Mar 2015	0.650		0.650		-		0.650	0	3.407	0
Subtotal			1.757	0.350		0.650		0.650		-		0.650	0.000	3.407	0.000
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Formal Qualification Test/ Developmental Test and test ramp up activities	IA	ATEC, CTSF : Various	0.000	0.400	Jul 2015	-		0.100		-		0.100	0	0.500	0
Limited User Test	MIPR	ATEC : Ft. Sill, OK	1.552	-		-		0.100		-		0.100	0	1.652	0

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L75 / <i>Profiler</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Profiler Virtual Module 1.0.1 Development	1	2015	1	2017
PVM 1.0.1 FQT	1	2017	1	2017
PVM 1.0.1 Customer Test	2	2017	2	2017
PVM 1.0.1 AIC Testing	2	2017	2	2017
PVM 1.0.1 Software Release	3	2017	3	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>				Project (Number/Name) L76 / <i>Dismounted Fire Support Laser Targeting Systems</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
L76: <i>Dismounted Fire Support Laser Targeting Systems</i>	-	4.912	4.662	5.778	-	5.778	6.131	14.472	5.221	5.410	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project matures technologies and capabilities which benefit the Lightweight Laser Designator Rangefinder (LLDR, AN/PED-1, AN/PED-1A, and AN/PED-1B), Joint Effects Targeting System (JETS), and other precision targeting systems. These precision targeting and next generation systems are used by dismounted Soldiers to locate, identify, and target enemy assets. This project focuses on reducing weight, improving imaging performance, and increasing targeting accuracy. Targeting accuracy improvements will focus on developing and integrating affordable, non-magnetic, high accuracy, full-time (24/7), and all weather Azimuth and Vertical Angle Measurement (AVAM) devices, with reduced size, weight, and power characteristics into the LLDR system. Long term goals include improving current celestial navigation systems to increase operational availability, developing precision targeting capabilities that will operate in a Global Positioning System (GPS) denied environment, and integration of M-Code GPS (next-generation GPS) receivers into LLDR and JETS when available.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
Title: Azimuth and Vertical Angle Measurement (AVAM) development	4.132	4.062	4.900
Description: AVAM is a non-magnetic based inertial navigation materiel solution for targeting devices. This AVAM effort improves azimuth accuracy leading to reduced collateral damage and improved target engagement. Celestial navigation systems provide a supplemental high accuracy, low cost azimuth measurement capability in order to provide 24/7 precision target capability.			
FY 2015 Accomplishments: Continued funding the development of improved precision AVAM devices and the development of better celestial navigation systems for application to the LLDR and the Joint Effects Targeting System (JETS), and funded the investigation of integration of emerging high accuracy capabilities into the current portfolio of targeting systems.			
FY 2016 Plans: Continue funding the development of an improved precision AVAM and initiate integration with the LLDR. Initiate the development of celestial navigation systems with improved operational availability for application to the LLDR and the JETS.			
FY 2017 Plans: Base FY 2017 Description: Complete integration of an improved precision AVAM with the LLDR system and conduct testing. Continue development of improved celestial navigation system technologies for application to LLDR and JETS.			
Title: Laser development	0.680	0.500	0.500

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L76 / <i>Dismounted Fire Support Laser Targeting Systems</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p>Description: Development of lightweight, low cost, multi-spectral, and more efficient lasers.</p> <p>FY 2015 Accomplishments: Development of lightweight, low cost, multi-spectral, and more efficient lasers.</p> <p>FY 2016 Plans: Continue funding of development of lightweight, low-cost, multi-spectral, and more efficient lasers.</p> <p>FY 2017 Plans: Incorporate laser improvements into the LLDR and conduct testing.</p>			
<p>Title: Target Acquisition Development</p> <p>Description: Focuses on development of improvements to optical detection, recognition, and identification of targets for precision targeting systems.</p> <p>FY 2015 Accomplishments: Continue improvements to imaging performance, recognition, and identification of targets.</p> <p>FY 2016 Plans: Continue improvements to imaging performance, recognition, and identification of targets.</p> <p>FY 2017 Plans: Incorporate imaging improvements into the LLDR design and conduct testing.</p>	0.100	0.100	0.378
Accomplishments/Planned Programs Subtotals	4.912	4.662	5.778

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
• LLDR Mod-of-In-Service (SSN KA3100): <i>Lightweight Laser Designator Rangefinder (LLDR) Modification-of-In-Service (SSN KA3100)</i>	16.885	22.314	28.058	-	28.058	25.998	31.435	46.212	40.271	Continuing	Continuing
• JETS (SSN K32101): <i>Joint Effects Targeting System (JETS) (SSN K32101)</i>	-	47.212	50.726	-	50.726	48.664	43.511	73.575	91.556	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L76 / <i>Dismounted Fire Support Laser Targeting Systems</i>

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

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• JETS (654710.L79-RDTE): <i>Joint Effects Targeting System</i> <i>(JETS) (654710.L79-RDTE)</i>	19.590	11.020	7.058	-	7.058	7.839	10.507	7.810	5.522	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project continues to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604710A / Night Vision Systems - Eng Dev				L76 / Dismounted Fire Support Laser Targeting Systems							
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Allot	PM-SSL : Ft. Belvoir VA 22060	0.007	-		0.050	Mar 2016	0.050	Nov 2016	-		0.050	Continuing	Continuing	Continuing
Subtotal			0.007	-		0.050		0.050		-		0.050	-	-	-
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AVAM Development and Integration	SS/CPFF	CACI Technologies, Inc : Chantilly, VA 20151	0.056	4.132	Mar 2015	3.402	Mar 2016	3.720	Nov 2016	-		3.720	Continuing	Continuing	0
Laser Development	SS/CPFF	DCS Millenium LLC : Alexandria, VA 22310	0.000	0.680	Feb 2015	0.500	Mar 2016	0.500	Feb 2017	-		0.500	Continuing	Continuing	0
Target Acquisition Development	SS/CPFF	CACI Technologies, INC : Chantilly, VA 20151	0.000	0.100	Mar 2016	0.100	Mar 2016	0.378	Nov 2016	-		0.378	Continuing	Continuing	0
Subtotal			0.056	4.912		4.002		4.598		-		4.598	-	-	0.000
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Various : Various	0.000	-		-		0.180	Nov 2016	-		0.180	Continuing	Continuing	0
Science and Engineering Support	SS/CPFF	Johns Hopkins University : Laurel, MD	0.000	-		0.610	Apr 2016	0.600	Jan 2017	-		0.600	Continuing	Continuing	0
Subtotal			0.000	-		0.610		0.780		-		0.780	-	-	0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L76 / <i>Dismounted Fire Support Laser Targeting Systems</i>
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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021							
	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				
Azimuth and Vertical Angle Measurement (AVAM) Development and Int																																
(1) LLDR 24/7 AVAM Production Cut-in																	▲								▲							
(2) LLDR GPS denied capability Production cut-in																									▲							
Improved Laser Development and Integration																																
(3) Initial LLDR Laser cut-in																	▲															
Improved Target Acquisition Development and Integration																																
(4) Initial LLDR Target Acquisition cut-in																	▲															
Competitive Development of Improved LLDR Prototype																																
M-Code Integration Development (LLDR)																																
(5) M-Code Cut-in																													▲			

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L76 / <i>Dismounted Fire Support Laser Targeting Systems</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Azimuth and Vertical Angle Measurement (AVAM) Development and Integration	2	2014	4	2021
LLDR 24/7 AVAM Production Cut-in	2	2018	2	2018
LLDR GPS denied capability Production cut-in	2	2020	2	2020
Improved Laser Development and Integration	2	2014	4	2021
Initial LLDR Laser cut-in	2	2018	2	2018
Improved Target Acquisition Development and Integration	1	2015	4	2021
Initial LLDR Target Acquisition cut-in	2	2018	2	2018
Competitive Development of Improved LLDR Prototype	2	2019	4	2021
M-Code Integration Development (LLDR)	3	2018	2	2021
M-Code Cut-in	3	2021	3	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>				Project (Number/Name) L79 / <i>Joint Effects Targeting Systems (JETS)</i>			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
L79: <i>Joint Effects Targeting Systems (JETS)</i>	-	19.590	11.020	7.058	-	7.058	7.839	10.507	7.810	5.522	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Effects Targeting System (JETS) is an Army program with joint interest (Air Force and Marine Corps). JETS will meet the one-man, hand-held precision targeting gap identified by the Fire Center of Excellence (FCOE). JETS is a light-weight, handheld system that will provide the single dismounted observer and Joint Terminal Attack Controller (JTAC) with a common, enhanced day and night thermal capability to rapidly acquire, accurately locate, positively identify, and precisely designate targets. JETS Target Location and Designation System (TLDS) will be able to interface with existing and future Service Forward Entry Systems (FESs). After initiating JETS TLDS production, this project will address continued development and integration of improved precision targeting components to reduce size, weight, power, and cost of the system, to address operation in environments where GPS is denied, and to integrate M-code GPS receivers when they become available.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017
<p>Title: Joint Effects Targeting System (JETS) Engineering and Manufacturing Development (EMD)</p> <p>Description: JETS is a lightweight mission equipment set for the dismounted forward observers and Joint Terminal Attack Controllers (JTAC). JETS provides observers and controllers the means to call for fire and control delivery of air, ground and naval surface fire support, including using precision munitions and effects (both lethal and non-lethal).</p> <p>FY 2015 Accomplishments: Continued EMD phase activities with two prime contract vendors, including build of prototypes, contractor testing, government testing of prototypes, and refined supportability and production planning.</p> <p>FY 2016 Plans: Complete EMD phase by completing contractor testing and Government Developmental Testing (DT).</p> <p>FY 2017 Plans: Refurbish EMD prototypes with corrective actions following DT(with one contractor). Perform follow-on DT and limited user testing.</p>	16.510	9.605	2.162
<p>Title: Azimuth and Vertical Angle Measurement (AVAM) Development</p> <p>Description: Focuses on improvements to azimuth accuracy by use of inertial navigation solutions (non-magnetic) for advanced precision AVAM solutions to provide high accuracy full-time (24/7) target location as well as celestial navigation systems that provide lightweight and low cost part-time precision AVAM for target location.</p>	3.080	1.415	4.896

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L79 / <i>Joint Effects Targeting Systems (JETS)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017
<p><i>FY 2015 Accomplishments:</i> Funded the development of precision AVAM and risk mitigation, and funded the development of improved celestial navigation systems, and explored the integration of both forward observer applications to the JETS.</p> <p><i>FY 2016 Plans:</i> Fund the development of low size, weight, power, and cost precision AVAM for future integration into JETS. Continue the development of improved celestial navigation systems, and analyze the integration of both improvements to the JETS design for incorporation as an Engineering Change Proposal (ECP).</p> <p><i>FY 2017 Plans:</i> Continue development of the improved AVAM to reduce size, weight, power and cost, and initiate development to address operation in GPS denied environments.</p>			
Accomplishments/Planned Programs Subtotals	19.590	11.020	7.058

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Joint Effects Targeting System: <i>Joint Effects Targeting System (SSN K32101)</i>	-	47.212	50.726	-	50.726	48.664	43.511	73.575	91.556	Continuing	Continuing
• Dismounted Fire Spt Laser Targeting: <i>Dismounted Fire Support Laser Targeting Sys (654710.L76)</i>	4.912	4.662	5.778	-	5.778	6.131	14.472	5.221	5.410	Continuing	Continuing

Remarks

D. Acquisition Strategy
This project continues to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604710A / Night Vision Systems - Eng Dev				L79 / Joint Effects Targeting Systems (JETS)							
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Allot	PM-SSL : Ft Belvoir, VA 22060	1.245	1.685	Feb 2015	0.492	Mar 2016	0.180	Jan 2017	-		0.180	0	3.602	0
Subtotal			1.245	1.685		0.492		0.180		-		0.180	0.000	3.602	0.000
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AVAM Development 2	C/T&M	Various : Various	0.962	3.080	Feb 2015	1.265	Mar 2016	2.241	Feb 2017	-		2.241	Continuing	Continuing	0
JETS TLDS EMD prototype development, integration, and test - Contractor BAE	C/CPFF	BAE Systems Information and Electronics : Nashua NH 03060-6909	19.488	6.448	Aug 2015	3.960	Oct 2015	-		-		-	0	29.896	0
JETS TLDS EMD prototype development, integration, and test - Contractor DRS	C/CPFF	DRS RSTA, Inc : Dallas TX 75243	19.440	6.453	Aug 2015	3.960	Oct 2015	-		-		-	0	29.853	0
JETS TLDS Refurbishment of EMD Prototypes and Testing - (TBD)	C/FFP	TBD : TBD	0.000	-		-		2.162		-		2.162	0	2.162	0
Subtotal			39.890	15.981		9.185		4.403		-		4.403	-	-	0.000
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Night Vision Electronics Sensors Directorate : Ft. Belvoir	10.314	0.329	Feb 2015	0.343	Feb 2016	0.375	Nov 2016	-		0.375	Continuing	Continuing	0

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)						Project (Number/Name)					
2040 / 5				PE 0604710A / Night Vision Systems - Eng Dev						L79 / Joint Effects Targeting Systems (JETS)					
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Science and Engineering Support	SS/CPFF	Johns Hopkins University : Laurel, MD	1.949	1.070	Sep 2015	0.500	Apr 2016	0.650	Dec 2016	-		0.650	0	4.169	0
Subtotal			12.263	1.399		0.843		1.025		-		1.025	-	-	0.000
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	MIPR	Various : Various	0.852	0.525	Jul 2015	0.500	Feb 2016	1.450	Nov 2016	-		1.450	Continuing	Continuing	0
Subtotal			0.852	0.525		0.500		1.450		-		1.450	-	-	0.000
Project Cost Totals			54.250	19.590		11.020		7.058		-		7.058	-	-	0.000
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L79 / <i>Joint Effects Targeting Systems (JETS)</i>
--------------------------------------------------	-------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Engineering & Manufacturing Development (EMD)																												
(1) JETS TLDS MS C					▲																							
Low Rate Initial Production (LRIP)																												
(2) Full Materiel Release (FMR)													▲															
Full Rate Production (FRP)																												
(3) Initial Operational Capability (IOC)													▲															
Reduce SWAP-C AVAM development and integration																												
(4) SWAP-C AVAM cut-in																	▲											
AVAM operation in a GPS denied environment development and integration																												
(5) GPS denied environment AVAM cut-in																					▲							
M-code integration development																												
(6) M-code cut-in																					▲							

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604710A / <i>Night Vision Systems - Eng Dev</i>	Project (Number/Name) L79 / <i>Joint Effects Targeting Systems (JETS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering & Manufacturing Development (EMD)	2	2013	2	2016
JETS TLDS MS C	3	2016	3	2016
Low Rate Initial Production (LRIP)	4	2016	4	2018
Full Materiel Release (FMR)	4	2018	4	2018
Full Rate Production (FRP)	1	2019	1	2023
Initial Operational Capability (IOC)	4	2018	4	2018
Reduce SWAP-C AVAM development and integration	3	2016	3	2020
SWAP-C AVAM cut-in	2	2020	2	2020
AVAM operation in a GPS denied environment development and integration	2	2017	3	2021
GPS denied environment AVAM cut-in	2	2021	2	2021
M-code integration development	3	2018	2	2021
M-code cut-in	2	2021	2	2021