

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0603774A I Night Vision Systems Advanced Development							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	9.556	9.061	3.052	-	3.052	5.181	5.120	4.934	4.944	Continuing	Continuing
VT7: Soldier Maneuver Sensors - Adv Dev	-	9.556	9.061	3.052	-	3.052	5.181	5.120	4.934	4.944	Continuing	Continuing
# The FY 2015 OCO Request will be submitted at a later date.												
Note Change Summary Explanation:												
A. Mission Description and Budget Item Justification This program element focuses on efforts to evaluate and integrate technologies and representative prototype systems that facilitate the development of Soldier-borne sensor devices transitioning from the laboratory to operational use. Efforts focus on proving out commonality across as broad a spectrum of users as possible to provide enhanced Soldier products, giving them superiority on the battlefield.  Project VT7 (Soldier Maneuver Sensors-Advanced Development): Efforts focus on proving out commonality across as broad a spectrum of users as possible to provide enhanced Soldier products, giving them superiority on the battlefield. Near term efforts include the integration of goggles with the weapon sights for Rapid Target Acquisition (RTA) in a realistic operating environment, thereby increasing Soldier lethality. This project also develops a Family of Weapon Sights (FWS) with fused electro-optical performance, including focal plane arrays and high resolution micro-displays. FWS enabling technologies increase product resolution, range, and imaging performance. New technologies will improve Soldier lethality, survivability, reduce weight, and improve affordability, mobility and comfort to combat and training environments. In addition this project will explore insertion of technology that improves the Soldier's ability to detect Improvised Explosive Devices (IED) Detection.												
B. Program Change Summary (\$ in Millions)				FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total				
Previous President's Budget				10.715	9.066	6.208	-	6.208				
Current President's Budget				9.556	9.061	3.052	-	3.052				
Total Adjustments				-1.159	-0.005	-3.156	-	-3.156				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-	-							
• Adjustments to Budget Years				-	-	-3.156	-	-3.156				
• Other Adjustments 1				-1.159	-0.005	-	-	-				

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603774A / Night Vision Systems Advanced Development				Project (Number/Name) VT7 / Soldier Maneuver Sensors - Adv Dev			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
VT7: Soldier Maneuver Sensors - Adv Dev	-	9.556	9.061	3.052	-	3.052	5.181	5.120	4.934	4.944	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
This project supports efforts to evaluate and integrate technologies and representative prototype systems for the development of Soldier-borne sensor devices, transitioning from the laboratory to operational use. Efforts focus on proving out commonality across as broad a spectrum of users as possible to provide enhanced products that give Soldiers superiority on the battlefield. Near term efforts include the integration of Helmet Mounted Displays (HMDs) with weapon sights for a Rapid Target Acquisition (RTA) capability in a realistic environment, increasing Soldier situational awareness and lethality and integrating technology, which detects enemy snipers using precise target information to mitigate operational risk before sniper fire occurs. This project also integrates high resolution thermal focal plane arrays, integrated ballistic solutions for auto-adjusting reticles, and wireless technology with weapon sights, increasing range, performance, and capability, while decreasing system size and weight. These integration efforts improve Soldier situational awareness, lethality, survivability, mobility, and comfort in combat and training environments.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Family of Weapons Sights (FWS)  Articles:  Description: FWS is a family of weapon sights that utilize advances in thermal and low light level sensor to produce Individual (I), Crew-Served (CS), and Sniper (S) weapon sights operable in-line with a day optic or in stand-alone mode. FWS-CS includes fused multi-band imagery and rapid target acquisition with ballistic equations, providing the Soldier with improved situational awareness and more rapid target detection and engagement during day and night operations. This program integrates smaller pixel (12 micron) uncooled long-wave infrared focal plane arrays in multiple large format sizes to improve sensitivity, clarity, and range, while simultaneously reducing the size, weight and power consumption of the Crew-Served and Sniper variants.  FY 2013 Accomplishments: Demonstrated technology for the FWS-I at an Early User Assessment (EUA) and funded develop FWS-CS technology including the build and testing of prototypes and evaluation of 12 micron Focal Plane Arrays (FPA).  FY 2014 Plans:									9.049	7.961	1.438	
									-	-	-	

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army									Date: March 2014		
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603774A / Night Vision Systems Advanced Development				Project (Number/Name) VT7 / Soldier Maneuver Sensors - Adv Dev			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015
Continue development of FWS-CS including integration of 12 micron thermal focal plane arrays, integrated ballistic solutions for auto-adjusting reticles, wireless technology, and HMDs resulting in demonstration of these technologies at an EUA.											
FY 2015 Plans: Continue technology development of the FWS-CS. Continue technology development of the FWS-Sniper (FWS-S) to integrate sensor and system technologies into a sight that can be clipped onto high magnification sniper day sights and provide increased identification ranges.											
Title: Pre-Shot Threat Detection (PTD)									0.507	1.100	1.614
Articles:									-	-	-
Description: Pre-Shot Threat Detection (PTD) (previously named Pre-emptive Threat Detection) provides dismounted units with pre-shot counter sniper-counter shooter-counter surveillance capabilities. Detecting enemy weapon and surveillance optics increases the dismounted leader's situational awareness/understanding (SA/SU) in complex environments. The objective of PTD is to provide pre-shot threat detection and increase survivability for dismounted Soldiers through battle systems integration.											
FY 2013 Accomplishments: Completed the Materiel Development Decision (MDD) for Pre-Shot Threat Detection . Initiated activities for Materiel Solution Analysis Phase.											
FY 2014 Plans: Complete Analysis of Alternatives in support of proposed Milestone Decision planned for the 4th Quarter of FY14											
FY 2015 Plans: Support completion of Performance Specification, multiple contract awards to build technology demonstrators for Pre-Shot Threat Detection.											
Accomplishments/Planned Programs Subtotals									9.556	9.061	3.052
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• Night Vision Systems -Eng Dev: Night Vision Systems - Eng Dev (PE 604710 L67)	-	11.265	15.256	-	15.256	12.422	12.710	19.654	24.722	Continuing	Continuing
• Helmet Mounted Enhanced Vision Devi: Helmet Mounted	118.698	129.111	134.365	-	134.365	137.769	88.683	63.241	77.503	Continuing	Continuing

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2015 Army									Date: March 2014			
Appropriation/Budget Activity 2040 / 4				R-1 Program Element (Number/Name) PE 0603774A / Night Vision Systems Advanced Development				Project (Number/Name) VT7 / Soldier Maneuver Sensors - Adv Dev				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
Enhanced Vision Devices (HMEVD) (SSN K36400)												
• Thermal Weapon Sight (TWS): Thermal Weapon Sight (TWS) ( SSN K22900)	20.054	10.074	-	-	-	-	-	-	0.154	-	30.282	
• Family of Weapon Sights (FWS)	-	-	49.205	-	49.205	45.898	71.610	66.690	86.239	Continuing	Continuing	
- I: Family of Weapon Sights - Individual (FWS-I) (SSN K22002)												
• Family of Weapon Sights (FWS) - CS: Family of Weapon Sights - Crew Served (FWS-CS) (SSN K22003)	-	-	-	-	-	49.815	40.633	45.544	58.894	Continuing	Continuing	
• Family of Weapon Sights (FWS)	-	-	-	-	-	-	8.788	14.458	18.697	Continuing	Continuing	
- S: Family of Weapon Sights - Sniper (FWS-S) (SSN K22004)												
• Sniper Night Sight (SNS): Sniper Night Sight (SNS) (SSN K41500)	11.660	-	-	-	-	-	-	-	0.020	-	11.680	
• Multi Function Aiming Light: Multi Function Aiming Light (MFAL) (SSN K35000)	-	-	-	-	-	-	-	9.860	7.903	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												

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Army</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 2040 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0603774A / Night Vision Systems Advanced Development						<b>Project (Number/Name)</b> VT7 / Soldier Maneuver Sensors - Adv Dev			
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management	Allot	Various : Various	0.000	0.336	Jan 2013	1.001	Jan 2014	0.331	Jan 2015	-		0.331	Continuing	Continuing	-
<b>Subtotal</b>			0.000	0.336		1.001		0.331		-		0.331	-	-	-
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Family of Weapon Sights-Crew Served (FWS-CS)	Various	NVESD : FT BELVOIR, VA	0.000	7.591	Jul 2013	-		-		-		-	Continuing	Continuing	-
Family of Weapon Sights-Sniper (FWS-S)	MIPR	NVESD : FT BELVOIR, VA	0.000	-		6.063	Mar 2014	0.123	Jun 2015	-		0.123	Continuing	Continuing	-
Pre-Shot Threat Detection (PTD)	MIPR	NVESD : FT BELVOIR, VA	0.000	0.500	Sep 2013	0.581	Jan 2014	1.494	Apr 2015	-		1.494	Continuing	Continuing	-
<b>Subtotal</b>			0.000	8.091		6.644		1.617		-		1.617	-	-	-
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Matrix Support	TBD	Various : Various	0.000	0.744	May 2013	0.830	Feb 2014	0.404	Feb 2015	-		0.404	Continuing	Continuing	-
<b>Subtotal</b>			0.000	0.744		0.830		0.404		-		0.404	-	-	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government Support Test Activity	MIPR	Army Test and Evaluation Command : Varrious	0.000	0.385	Feb 2013	0.586	Jun 2014	0.700	Jan 2015	-		0.700	Continuing	Continuing	-
<b>Subtotal</b>			0.000	0.385		0.586		0.700		-		0.700	-	-	-

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Army										<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 2040 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603774A / <i>Night Vision Systems Advanced Development</i>					<b>Project (Number/Name)</b> VT7 / <i>Soldier Maneuver Sensors - Adv Dev</i>			
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	0.000	9.556		9.061		3.052		-		3.052	-	-	-
<b>Remarks</b>													

**UNCLASSIFIED**

<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Army			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 2040 / 4		<b>R-1 Program Element (Number/Name)</b> PE 0603774A / <i>Night Vision Systems Advanced Development</i>			<b>Project (Number/Name)</b> VT7 / <i>Soldier Maneuver Sensors - Adv Dev</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
FWS-I Technology Development																												
FWS-I MS B																												
FWS-CS Technology Development																												
FWS-CS MS B																												
FWS-Sniper (S) Technology Development																												
FWS-S MS B																												
PRE-SHOT THREAT DETECTION (PTD)																												
PTD MS A																												
PTD Technology Development																												
CONFORMAL DISPLAY																												
FUSED VISION MOBILITY DEVICE																												

# UNCLASSIFIED

<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Army			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603774A / <i>Night Vision Systems Advanced Development</i>	<b>Project (Number/Name)</b> VT7 / <i>Soldier Maneuver Sensors - Adv Dev</i>	

## Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FWS-I Technology Development	4	2011	3	2014
FWS-I MS B	3	2014	3	2014
FWS-CS Technology Development	4	2011	2	2016
FWS-CS MS B	2	2016	2	2016
FWS-Sniper (S) Technology Development	4	2011	2	2016
FWS-S MS B	2	2016	2	2016
PRE-SHOT THREAT DETECTION (PTD)	4	2013	4	2013
PTD MS A	4	2014	4	2014
PTD Technology Development	4	2014	1	2017
CONFORMAL DISPLAY	1	2017	2	2019
FUSED VISION MOBILITY DEVICE	1	2018	2	2020