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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305233A / RQ-7 UAV							
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	-	28.554	12.025	16.389	-	16.389	7.454	7.987	10.459	10.100	-	92.968
RQ7: RQ-7 Shadow UAV	-	28.554	12.025	16.389	-	16.389	7.454	7.987	10.459	10.100	-	92.968

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Tactical Unmanned Aerial Vehicle (TUAV) RQ-7 Shadow provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA), Force Protection and Manned-Unmanned Teaming capability. It also provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to nine hours. The TUAV Shadow system consists of 4 air vehicles (each configured with an Electro Optical/Infrared (EO/IR) sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) and is supported at the division level by a Mobile Maintenance Facility (MMF).

All 102 Shadow UAS systems have been procured and fielded. Shadow has amassed over 880,190 total flight hours, most of which were flown in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Incremental upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Terminal (OSRVT). Continued developmental improvements are required to provide greater interoperability, increase operational capability and flexibility to the Brigade Combat Team. Modifications to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from units operating in OEF and OIF.

Justification: FY2015 RQ-7 UAV Base funding of \$16.389 million will be used for capability and reliability improvements, specifically: Air Vehicle modifications (Block III Engine), reduced noise signature for engine and Ground Equipment (interoperability) improvements. Additionally, funds will be for System Engineering, Program Management, and System Test and Evaluation support. Funds will also be used to incorporate the Increment II OSRVT Bi-Directional capability, ensure interoperability, and OSRVT test events.

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development		PE 0305233A / RQ-7 UAV			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	31.158	12.031	29.735	-	29.735
Current President's Budget	28.554	12.025	16.389	-	16.389
Total Adjustments	-2.604	-0.006	-13.346	-	-13.346
• Congressional General Reductions	-2.604	-0.006			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-13.346	-	-13.346

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Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0305233A / RQ-7 UAV				Project (Number/Name) RQ7 / RQ-7 Shadow UAV			
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
RQ7: RQ-7 Shadow UAV	-	28.554	12.025	16.389	-	16.389	7.454	7.987	10.459	10.100	-	92.968
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

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All 102 Shadow UAS systems have been procured and fielded. Shadow has amassed over 880,190 total flight hours, most of which were flown in support of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Incremental upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Terminal (OSRVT). Continued developmental improvements are required to provide greater interoperability, increase operational capability and flexibility to the Brigade Combat Team. Modifications to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from units operating in OEF and OIF.

Justification: FY2015 RQ-7 UAV Base funding of \$16.389 million will be used for capability and reliability improvements, specifically: Air Vehicle modifications (Block III Engine), reduced noise signature for engine and Ground Equipment (interoperability) improvements. Additionally, funds will be for System Engineering, Program Management, and System Test and Evaluation support. Funds will also be used to incorporate the Increment II OSRVT Bi-Directional capability, ensure interoperability, and OSRVT test events.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2013	FY 2014	FY 2015
Title: Air Vehicle Improvements	15.773	6.534	6.297
Articles:	-	-	-
Description: Funding is provided for the following effort			
FY 2013 Accomplishments:			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Completed development of improved weatherization and a Small Mission Computer. Continued development of triple redundant avionics suite, reliability improvements, and development of a larger, more reliable engine.					
FY 2014 Plans: Continued development of manned unmanned teaming (MUM-T), software blocking, and continuation of engine development to include reduced noise signature for engine.					
FY 2015 Plans: Continued development of manned unmanned teaming (MUM-T), software blocking, and planned completion of engine development.					
Title: Ground Equipment Improvements			4.954	1.281	3.682
Articles:			-	-	-
Description: Funding is provided for the following effort					
FY 2013 Accomplishments: Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations					
FY 2014 Plans: Continues to fund Ground Equipment Improvements. Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations, and System Vulnerability					
FY 2015 Plans: Continues to fund Ground Equipment Improvements. Continues development of interoperability capabilities through use of Universal Ground Data Terminals and Universal Ground Control Stations, Network Security and System Vulnerability					
Title: Test and Evaluation			1.282	0.792	1.711
Articles:			-	-	-
Description: Funding is provided for the following effort					
FY 2013 Accomplishments: Continues to fund Test and Evaluation					
FY 2014 Plans: Continues to fund Test and Evaluation					
FY 2015 Plans:					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Continues to fund Test and Evaluation.					
Title: System Engineering/Program Management			1.462	1.286	2.566
Articles:			-	-	-
Description: System Engineering/Program Management					
FY 2013 Accomplishments: Continues to fund System Engineering/Program Management					
FY 2014 Plans: Continues to fund System Engineering/Program Management					
FY 2015 Plans: Continues to fund System Engineering/Program Management					
Title: One System Remote Video Terminal (OSRVT)			5.083	2.132	-
Articles:			-	-	-
Description: Funding is provided for the following effort					
FY 2013 Accomplishments: Continues to fund One System Remote Video Terminal (OSRVT). Integrate Incremental II bi-directional functionality into the OSRVT. Develop Software Blocking and Interoperability improvements					
FY 2014 Plans: Continues to fund One System Remote Video Terminal (OSRVT). Integrate Incremental II bi-directional functionality into the OSRVT. Develop Software Blocking and Interoperability improvements					
Title: One System Remote Video Terminal Test and Evaluation			-	-	2.133
Description: One System Remote Video Terminal Test and Evaluation					
FY 2015 Plans: Complete developmental testing of Increment II capabilities and conduct Initial Operational Test and Evaluation (IOT&E)					
Accomplishments/Planned Programs Subtotals			28.554	12.025	16.389

UNCLASSIFIED

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C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
• RQ-7 UAV MODS (A00018): RQ-7 UAV MODS (A00018)	26.215	121.902	125.380	-	125.380	51.699	87.249	58.021	82.034	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
A System Capability Demonstration (SCD) was conducted with four contractors. The results from the SCD in conjunction with proposal evaluations resulted in the competitive down select of a Best Value TUAS. A successful Milestone II ASARC was conducted 21 Dec 99 and a Milestone III Decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02 and all 102 systems were procured by FY2009. Continued development of the selected TUAV system will be accomplished through a series of modifications and retrofits such as Shadow v2, Communications Relay, Laser Designator, Block III engine, and reliability upgrades. Development/ integration of these improved capabilities will be through individual efforts on a (mostly) sole source cost-plus fixed fee engineering services contract with the Shadow prime contractor. Development of the Block III engine is being accomplished through a competitive process.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army												Date: March 2014			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0305233A / RQ-7 UAV				Project (Number/Name) RQ7 / RQ-7 Shadow UAV					
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Base: Program Management	RO	PM UAS : Redstone Arsenal, AL	1.649	1.069	Dec 2012	0.396	Mar 2014	0.570	Dec 2014	-		0.570	-	3.684	-
Subtotal			1.649	1.069		0.396		0.570		-		0.570	-	3.684	-
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
OIF Improvements / Block Upgrades / Capability Improvements	SS/CPFF	AAI Corporation : Hunt Valley, MD	3.105	-		-		-		-		-	-	3.105	-
System Engineering / Reliability Solutions	SS/CPFF	AAI Corporation : Hunt Valley, MD	2.025	-		-		-		-		-	-	2.025	-
Ground Equipment Improvements	SS/CPFF	AAI Corporation, MD : AAI Corporation, MD	4.498	4.954	Jan 2013	1.281	Apr 2014	3.682	Jan 2015	-		3.682	-	14.415	-
Block III Engine Development	C/CPFF	LSF : Redstone Arsenal, AL	9.122	11.255	Sep 2013	6.347	May 2014	5.901	May 2015	-		5.901	-	32.625	-
Other Air Vehicle Improvements	SS/CPFF	AAI Corporation, MD : AAI Corporation, MD	10.438	4.518	Jan 2013	0.187	Apr 2014	0.396	May 2015	-		0.396	-	15.539	-
One System Remote Video Terminal (OSRVT)	SS/CPFF	AAI Corporation, MD : AAI Corporation, MD	3.914	5.083	Nov 2013	2.132	May 2014	-		-		-	Continuing	Continuing	-
Payload Improvements	SS/CPFF	Various : Various	2.750	-		-		-		-		-	-	2.750	-
Subtotal			35.852	25.810		9.947		9.979		-		9.979	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Contractor Engineering Support	Various	Various : Various	0.300	0.262	Dec 2012	0.593	Mar 2014	1.331	Dec 2014	-		1.331	-	2.486	-

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Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
Base: Government Engineering and Logistic Support	SS/CPFF	Various : Various	0.150	0.131	Nov 2012	0.297	Mar 2014	0.665	Nov 2014	-		0.665	-	1.243	-
Subtotal			0.450	0.393		0.890		1.996		-		1.996	-	3.729	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 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
RQ-7 Developmental Testing	Various	Various : Various	1.400	1.182	Dec 2012	0.692	Mar 2014	1.611	Dec 2014	-		1.611	-	4.885	-
RQ-7 Operational Testing	MIPR	Various : Various	0.100	0.100		0.100		0.100		-		0.100	-	0.400	-
OSRVT Developmental Testing	MIPR	Various : Various	0.000	-		-		0.100		-		0.100	-	0.100	-
OSRVT - Operational Testing	MIPR	Various : Various	0.000	-		-		2.033		-		2.033	-	2.033	-
Subtotal			1.500	1.282		0.792		3.844		-		3.844	-	7.418	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			39.451	28.554		12.025		16.389		-		16.389	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army	Date: March 2014
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Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305233A / RQ-7 UAV	Project (Number/Name) RQ7 / RQ-7 Shadow UAV
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	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
Block III Engine - Production Contract Award																												
Block III Fielding																												
Block III Engine Development																												
GPS Denied																												
Interoperability Upgrades																												
Software Block Upgrades																												
OSRVT Increment II																												
OSRVT IOT&E																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305233A / RQ-7 UAV	Project (Number/Name) RQ7 / RQ-7 Shadow UAV	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block III Engine - Production Contract Award	4	2015	4	2015
Block III Fielding	1	2017	4	2018
Block III Engine Development	4	2013	4	2015
GPS Denied	1	2017	4	2018
Interoperability Upgrades	1	2015	4	2019
Software Block Upgrades	1	2015	4	2019
OSRVT Increment II	1	2013	3	2015
OSRVT IOT&E	3	2015	3	2015