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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305233A: RQ-7 Shadow UAV							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	7.805	0.000	7.805	50.487	78.084	38.667	22.527	Continuing	Continuing
RQ7: RQ-7 SHADOW UAV	0.000	0.000	7.805	0.000	7.805	50.487	78.084	38.667	22.527	Continuing	Continuing
Note Not applicable for this item.											
A. Mission Description and Budget Item Justification The Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow 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 five hours. The TUAV Shadow system consists of four air vehicles, (each configured with an EO/IR sensor payload), launcher and 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) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF). The TUAV has logged over 469,632 flight hours since Jun 01, most of which were flown in support of Operation Iraqi Freedom and Operation Enduring Freedom. Block upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other weapon systems, manned and unmanned. Included in this category is Universal Ground Control Station (UGCS), Trainer upgrades and One System Remote Video Transceiver (OSRVT). Small Sense and Avoid System (SSAASy) is required to meet the requirement for a traffic alert and collision avoidance system and to allow for operations in the National Airspace (NAS). Rolling Take Off and Launch and Land Heavier Air Vehicle (LALHAV) is required to improve reliability and provides redundant take off capability for the system. Intelligence, Surveillance, and Reconnaissance Surge funding for development of an extended wing is required for weight growth from Tactical Common Data Link (TCDL) and increased endurance.FY2011 Base funds will be used for OIF Improvements/Block Upgrades/Capability Improvements, specifically: development of a heavy fuel engine; airframe modificaitons to support all weather payload requirements; and integration of SAR, SIGINT, HD payloads. Additionally, funds will be for System Engineering/Reliability Solutions (to include avionics reliability improvements to meet emerging natinal airspace requirements) and TCDL Test Support.FY2011 funding for this project shifted from project 114 to project RQ7.											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0305233A: RQ-7 Shadow UAV			
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	7.805	0.000	7.805
Total Adjustments	0.000	0.000	7.805	0.000	7.805
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	7.805	0.000	7.805

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305233A: <i>RQ-7 Shadow UAV</i>				<b>PROJECT</b> RQ7: <i>RQ-7 SHADOW UAV</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
RQ7: <i>RQ-7 SHADOW UAV</i>	0.000	0.000	7.805	0.000	7.805	50.487	78.084	38.667	22.527	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> <p>The Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow 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 five hours. The TUAV Shadow system consists of four air vehicles (each configured with an EO/IR sensor payload), launcher and 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) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF). The TUAV has logged over 469,632 flight hours since Jun 01, most of which were flown in support of Operation Iraqi Freedom and Operation Enduring Freedom. Block 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 incorporation of a Universal Ground Control Station (UGCS), trainer upgrades, and One System Remote Video Transceiver (OSRVT). Small Sense and Avoid System (SSAASy) is required to meet the requirement for a traffic alert and collision avoidance system and to allow for operations in the National Airspace (NAS). Development of an extended wing provides for weight growth from the integration of Tactical Common Data Link (TCDL) and provides increased endurance. FY 2011 Base funds will be used for OIF Improvements/Block Upgrades/Capability Improvements, specifically: development of a heavy fuel engine; airframe modifications to support all weather payload requirements; and integration of SAR, SIGINT, HD payloads. Additionally, funds will be for System Engineering/Reliability Solutions (to include avionics reliability improvements to meet emerging national airspace requirements) and TCDL Test Support. Beginning in FY 2011, funding for this project shifts from PE 0305233A Proj 114. However, due to an error in allocating the funds to new PE \$1.672 million still remains in the Project for FY 2011 and is reflected ONLY in the total funding line of the old PE. This PE/Proj includes the \$1.672 million amount ONLY in Accomplishments/Planned Program (R2a) and Cost Analysis (R3). This separate reporting mitigates any appearance of double funding.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						0.000	0.000	3.355	0.000	3.355	
Base: OIF Improvements/Block Upgrades/Capability Improvements											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305233A: RQ-7 Shadow UAV	PROJECT RQ7: RQ-7 SHADOW UAV			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #2  Base: System Engineering/Reliability Solutions	0.000	0.000	2.025	0.000	2.025
FY 2009 Accomplishments: FY 2009					
FY 2010 Plans: FY 2010					
FY 2011 Base Plans: FY 2011 Base					
FY 2011 OCO Plans: FY 2011 OCO					
Program #3	0.000	0.000	1.500	0.000	1.500

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305233A: RQ-7 Shadow UAV	PROJECT RQ7: RQ-7 SHADOW UAV			
B. Accomplishments/Planned Program (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Base: Test Support (TCDL - Tactical Common Data Link)  FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010  FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO					
Program #4  Base: Program Management Support  FY 2009 Accomplishments: FY 2009  FY 2010 Plans: FY 2010  FY 2011 Base Plans: FY 2011 Base  FY 2011 OCO Plans: FY 2011 OCO	0.000	0.000	0.475	0.000	0.475

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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
Program #5						0.000	0.000	0.450	0.000	0.450	
Base: Other Government Agencies (OGA)											
FY 2009 Accomplishments: FY 2009											
FY 2010 Plans: FY 2010											
FY 2011 Base Plans: FY 2011 Base											
FY 2011 OCO Plans: FY 2011 OCO											
Accomplishments/Planned Programs Subtotals						0.000	0.000	7.805	0.000	7.805	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: TUAV Procurement/ OPA (BA0330)	167.906	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #2: TUAV Procurement/ APA (A00018)	0.000	607.900	505.015	97.800	602.815	37.541	40.360	86.984	148.594	Continuing	Continuing
• Ord. #3: Initial Spares - TUAV (BS9738)	2.349	2.743	2.628	0.000	2.628	0.000	0.000	0.000	0.000	Continuing	Continuing
	12.169	59.616	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	71.785

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305233A: <i>RQ-7 Shadow UAV</i>				<b>PROJECT</b> RQ7: <i>RQ-7 SHADOW UAV</i>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #4: <i>PE 0305204A, Project 114</i> <i>RDTE.A</i>											
<b>D. Acquisition Strategy</b> 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 TUAV system. A successful Milestone II ASARC was conducted 21 Dec 99, and a TUAV LRIP contract was awarded to AAI Corporation 27 Dec 99. In order to accelerate fielding of the TUAV system, a second LRIP for four systems was awarded 30 Mar 01 following a successful OPTEMPO test. In order to maintain accelerated fielding and continue ramp up to full rate production, a third LRIP was awarded in Mar 02. A successful LRIP program led to a MS III decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02. Continued development of the selected TUAV system will be accomplished through a series of modifications and retrofits such as Tactical Common Data Link (TCDL), Communications Relay, Laser Designator, and reliability upgrades.											
<b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army											DATE: February 2010			
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Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Base: OIF Improvements / Block Upgrades / Capability	SS/CPFF	AAI Corporation MD	0.000	0.000		2.690		0.000		2.690	Continuing	Continuing	0	
Base: System Engineering / Reliability Solutions	SS/CPFF	AAI Corporation MD	0.000	0.000		2.690		0.000		2.690	Continuing	Continuing	0	
Subtotal			0.000	0.000		5.380		0.000		5.380			0.000	
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Contractor Engineering Support	C	Various Contractors Location could not be determined.	0.000	0.000		0.330		0.000		0.330	Continuing	Continuing	0	
Government Engineering and Logistics Support	C	AMRDEC & IMMC Redstone Arsenal, AL	0.000	0.000		0.170		0.000		0.170	Continuing	Continuing	0	
Government Engineering Support - Extended Range	SS/CPFF	AMRDEC Redstone Arsenal AL	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0	

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Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			0.000	0.000		0.500		0.000		0.500			0.000	
Remarks														
Test and Evaluation (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Development Testing/ TCDL - Tactical Common Data Link	C	Various Location could not be determined.	0.000	0.000		1.500		0.000		1.500	Continuing	Continuing	0	
Subtotal			0.000	0.000		1.500		0.000		1.500			0.000	
Remarks														
Management Services (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
	C	PM UAS	0.000	0.000		0.425		0.000		0.425	Continuing	Continuing	0	

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<b>Management Services (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</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 Personnel		Redstone Arsenal, AL											
<b>Subtotal</b>			0.000	0.000		0.425		0.000		0.425			0.000
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.000	0.000		7.805		0.000		7.805			0.000
<b>Remarks</b>													

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