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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Air Force	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>							
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	48.533	-	52.425	73.000	125.425	20.907	7.963	-	-	Continuing	Continuing
675372: <i>Integrated Sensor IS Structure</i>	48.533	-	52.425	-	52.425	20.907	7.963	-	-	Continuing	Continuing
676019: <i>Blue Devil</i>	-	-	-	73.000	73.000	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This PE will focus USAF efforts on long endurance Remotely-Piloted Aircraft (RPAs), which allows days, months, or years of endurance as well as their associated sensors and communications suites. Efforts can include airships and more standard aircraft structures.

The Integrated Sensor IS Structure (ISIS) Program is developing a radar of unprecedented proportions that is fully integrated into a station-keeping stratospheric airship. The ISIS will support the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking includes air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture also provides track data and other communications directly to users in-theater. The system is expected to be launched from CONUS locations with a multi-year operational life. No support personnel or facilities are required in-theater. Efforts will include work on the ground station and the corresponding Processing, Exploitation, and Dissemination (PED) connectivity.

The Blue Devil II system is an Air Force led single ship technology and concept demonstration of multi-intelligence, cross-platform tipping and cueing of fused SIGINT, wide area and high-definition (HD) EO/IR motion imagery on a persistent lighter-than-air (LTA) airship. Blue Devil II will employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station. This effort directly supports multiple validated CENTCOM urgent needs, and contributes directly to force protection and counter Improvised Explosive Device missions for coalition Forces.

Funds in both projects also cover activities to include studies and analysis to support both current program planning and execution and future program planning. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>
Previous President's Budget	48.736	-	-	-	-
Current President's Budget	48.533	-	52.425	73.000	125.425
Total Adjustments	-0.203	-	52.425	73.000	125.425
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.203	-	52.425	73.000	125.425

Change Summary Explanation

The ISIS Program is currently being developed by DARPA. USAF began to cost share development beginning in FY10 with possible program transition from DARPA to the USAF following flight test in FY13.

Blue Devil II airship development began in FY10 using Army Rapid Equipping Force funds. The Air Force assumed management of the program when FY10 funds were placed in PE 0305206F and 0603203F to continue airship development and begin sensor integration. PE 0305205F will be used to manage the program for all FY12 and out funding. This program was listed as a new start in the FY10 OMNIBUS (FY 10-24 PA). The initiative is supported by the Joint Improvised Explosive Device Defeat Organization (JIEDDO).

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305205F: Endurance Unmanned Aerial Vehicles				PROJECT 675372: Integrated Sensor IS Structure			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
675372: Integrated Sensor IS Structure	48.533	-	52.425	-	52.425	20.907	7.963	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
FY12-14 funding was added to this AF-DARPA joint project to develop a prototype for flight test and a potential operational demo in FY14.											
A. Mission Description and Budget Item Justification											
This PE will focus USAF efforts on long endurance remotely-piloted aircraft (RPAs), which allow days, months, or years of endurance as well as their associated sensors and communications suites. Efforts can include airships and more standard aircraft structures.											
The Integrated Sensor IS Structure (ISIS) Program is developing a radar that is fully integrated into a station-keeping stratospheric airship. ISIS will support the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking includes air targets to the radar horizon of 600 km and ground targets to a range of 300 km. The radar aperture also provides track data and other communications directly to users in-theater. The system is expected to be launched from CONUS locations with a multi-year operational life. No support personnel or facilities are required in-theater. Efforts will include work on the ground station and the corresponding Processing, Exploitation, and Dissemination (PED) connectivity.											
DARPA is funding development of the prototype in FY11. Air Force funding is required in FY12-FY14 to complete development of the prototype and conduct a flight test and potential operation demonstration. This project includes completion of the designs for the radar, propulsion, power systems, and the airframe. The efforts also include development and testing of the hull materials, antenna design/production, calibration system design, software development for the radar and flight control systems, and integration of the radar into the hull structure.											
Funds can also cover studies and analysis to support both current program planning and execution and future program planning. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: ISIS							48.533	-	52.425	-	52.425
Description: Program development.											
FY 2010 Accomplishments:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>		PROJECT 675372: <i>Integrated Sensor IS Structure</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Conducted studies on enabling technologies; provided Air Force share of program development costs.</p> <p><i>FY 2011 Plans:</i></p> <p><i>FY 2012 Base Plans:</i> Fabricate prototype design; initial preparations for flight readiness review.</p> <p><i>FY 2012 OCO Plans:</i></p>					
Accomplishments/Planned Programs Subtotals	48.533	-	52.425	-	52.425

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• DARPA: <i>RDT&E, PE 0603287E</i>	27.850	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• DARPA (1): <i>RDT&E, PE 0603286E</i>	72.650	43.400	5.000	0.000	5.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy
<p>This is a Cost-Plus-Fixed-Fee contract with a total value of \$400M. The project is being funded with a 50/50 split by the Air Force and DARPA under a Memorandum of Agreement. Air Force funds intended for the contract are being provided to DARPA via a Military Interdepartmental Purchase Request (MIPR) for obligation. The Air Force Research Laboratory is acting as the Contracting Officer's Technical Representative for DARPA. The prime contractor is Lockheed Martin Aeronautics of Palmdale, CA and the radar sub is Raytheon Space and Airborne Systems, El Segundo, CA.</p>

E. Performance Metrics
<p>Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>				PROJECT 675372: <i>Integrated Sensor IS Structure</i>						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	
Prototype Development	C/CPFF	Lockheed Martin:Palmdale, CA	48.533	-		52.425	Nov 2011	-		52.425	Continuing	Continuing	TBD	
Subtotal			48.533	-		52.425		-		52.425				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	0.000	
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	0.000	
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	0.000	
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			48.533	-		52.425		-		52.425				
Remarks														

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Air Force		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0305205F: Endurance Unmanned Aerial Vehicles	PROJECT 675372: Integrated Sensor IS Structure

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>	PROJECT 675372: <i>Integrated Sensor IS Structure</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prototype Design	1	2010	3	2011
Fabrication	1	2011	2	2013
Flight Test	3	2013	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305205F: Endurance Unmanned Aerial Vehicles				PROJECT 676019: Blue Devil			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
676019: Blue Devil	-	-	-	73.000	73.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
The program has been funded to latest cost estimate, less efficiencies. The reduction for efficiencies are not intended to impact program content.											
In FY12, this is a new project number. In FY12, Blue Devil II efforts are transferred from PE 352066f Airborne Reconnaissance Systems, and PE 063203f Advance Aerospace Sensors in order to consolidate program content.											
A. Mission Description and Budget Item Justification											
The Blue Devil II system is an Air Force led single ship technology and concept demonstration of multi-intelligence, cross-platform tipping and cueing of fused SIGINT, wide area and high-definition (HD) EO/IR motion imagery on a persistent lighter-than-air (LTA) airship. Blue Devil II will employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station. This effort directly supports multiple validated CENTCOM urgent needs, and contributes directly to force protection and counter Improvised Explosive Device missions for coalition Forces. FY12 OCO funds are required to support deployment of the Blue Devil II system for operational demonstration of the capability. Blue Devil II is a rapid acquisition technology demonstration that started in FY10 with funding detailed in the Other Program Funding Summary section. If FY12 funding is not provided, the Air Force will be unable to deploy the Blue Devil II system and meet current CENTCOM urgent needs for this type of technology.											
This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.											
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Blue Devil II							-	-	-	73.000	73.000
Description: Develop and rapidly field an integrated multi-intelligence system on a persistant lighter-than-air airship with organic tipping and cueing of fused SIGINT to on-board wide field of view and narrow field of view EO/IR motion imagery systems.											
FY 2010 Accomplishments:											
FY 2011 Plans:											
FY 2012 Base Plans:											
FY 2012 OCO Plans:											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Air Force							DATE: February 2011				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>				PROJECT 676019: <i>Blue Devil</i>				

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue development and test of the Blue Devil II system that started with other program funding, and deploy Blue Devil II to CENTCOM for operationl demonstration of capability.					
Accomplishments/Planned Programs Subtotals	-	-	-	73.000	73.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Army: <i>RDT&E, PE M80101 Army Rapid Equipping Force (REF)</i>	14.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• AF: <i>RDT&E, PE 063203f Advanced Aerospace Sensors</i>	16.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• AF (2): <i>RDT&E, PE 35206f Airborne Reconnaissance System</i>	22.950	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy											
The Blue Devil II initiative is being executed by the 645 AESG (BIG SAFARI) to field this needed capability quickly to address COCOM urgent needs. Blue Devil II will be executed as a rapid acquisition program in order to field the capability as quickly as possible.											

E. Performance Metrics											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Air Force											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>				PROJECT 676019: <i>Blue Devil</i>					

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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
Operational Demonstration Support	TBD	MAV-6:Vicksburg, MS	-	-		-		70.000		70.000	0.000	70.000	0.000
Subtotal			-	-		-		70.000		70.000	0.000	70.000	0.000

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	0.000

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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	0.000

Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 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
Program Management Services	TBD	645 AESG:Dayton, OH	-	-		-		3.000		3.000	0.000	3.000	0.000
Subtotal			-	-		-		3.000		3.000	0.000	3.000	0.000

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		-		73.000		73.000	0.000	73.000	0.000

Remarks													

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APPROPRIATION/BUDGET ACTIVITY
3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

PROJECT
676019: *Blue Devil*

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Air Force			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305205F: <i>Endurance Unmanned Aerial Vehicles</i>	PROJECT 676019: <i>Blue Devil</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Blue Devil II Design, Development, Test	1	2011	2	2012
Operational Demo	2	2012	4	2013

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