Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force											DATE: April 2013	
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*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	108.021	21.000	3.000	-	3.000	3.000	2.000	0.000	0.000	Continuing	Continuing
675372: *Integrated Sensor IS Structure*	-	23.620	21.000	3.000	-	3.000	3.000	2.000	0.000	0.000	Continuing	Continuing
676019: *Blue Devil*	-	65.401	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	65.401
67A026: *MAGIC*	-	19.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
MDAP/MAIS Code(s): 252												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

FY 2012 funding totals included $63.0M appropriated for Overseas Contingency Operations for Blue Devil Block 2 (airship) development.

A. Mission Description and Budget Item Justification

This PE focuses USAF efforts on long endurance platforms which allow days, months, or years of endurance, as well as their associated sensors and communications suites. Efforts include, but are not limited to, optionally piloted airships, remotely piloted aircraft (RPA) or more standard aircraft structures which could be flown as manned or unmanned.

The Integrated Sensor IS Structure (ISIS) project was planned to develop a radar which is fully integrated into a station-keeping, stratospheric airship. ISIS supports 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 is intended to provide track data directly to users in-theater. The objective system was planned to launch from CONUS locations with a multi-year operational life.

The Blue Devil Block 2 (BD2) project was 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. BD2 was intended to employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station in mid FY 2012 through FY 2013. The development effort was stopped in the 3rd Quarter of FY 2012 and all BD2 equipment was packed and shipped to the 645 AESG (BIG SAFARI) managed short term storage facility in Greenville, TX during the 4th Quarter of FY 2012.

The Medium Altitude Global ISR and Communications (MAGIC) project develops a multiple day, medium altitude ISR unmmanned aircraft system (UAS) to provide long endurance surveillance with a multiple sensor payload. This concept was initiated by OSD/DD&R as a Joint Capabilities Technology Demonstration (JCTD) in the 3rd Quarter FY 2010 with a competition between five defense industry partners. Aurora Flight Sciences' Orion remotely piloted aircraft (RPA) concept was chosen

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force	DATE: April 2013
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*

as the JCTD candidate by OSD/DDR&E per the recommendation of the Combatant Commands. The MAGIC/Orion RPA initiative was subsequently released from the JCTD process and transitioned to the Air Force as the sponsor of this developmental initiative in the 3rd Quarter FY 2011. The Air Force is scheduling the first flight series for Aurora Flight Sciences' Orion RPA, as a proof of concept for air worthiness; this flight test is projected to take place at NAWS China Lake, CA in the 3rd Quarter of FY 2013.

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. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	127.925	21.000	8.000	-	8.000
Current President's Budget	108.021	21.000	3.000	-	3.000
Total Adjustments	-19.904	0.000	-5.000	-	-5.000
• 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			
• Other Adjustments	-19.904	0.000	-5.000	-	-5.000

Change Summary Explanation

Reduction of $19.904M in FY 2012 reflects an incorrect database. Actual funding was $127.925M.

Reduction of $5M in FY 2014 due to higher Department priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
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)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675372: *Integrated Sensor IS Structure*	-	23.620	21.000	3.000	-	3.000	3.000	2.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

Reduction of $5M in FY 2014 due to higher Department priorities.

A. Mission Description and Budget Item Justification

The Integrated Sensor IS Structure (ISIS) Program intended to develop a radar fully integrated into a station-keeping stratospheric airship. ISIS supports the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking objectives includes air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture also is intended to provide track data directly to users in-theater. The objective system was planned to launch from CONUS locations with a multi-year operational life.

DARPA funded development of the prototype in FY09-12. Air Force contributes funding from FY10-FY14 to this joint DARPA - Air Force project. This project includes completion of the designs for the radar, propulsion, power systems, and the airframe, but is focused on demonstrating the ability to manufacture and demonstrate performance objectives of the radar and material objectives of the airship. The radar elements and airship materials will be demonstrated in FY 2014.

Funds also cover studies and analysis to support 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 2012	FY 2013	FY 2014
Title: ISIS	23.620	21.000	3.000
Description: Design, develop, and demonstrate radar technologies involving large apertures and low power.			
FY 2012 Accomplishments: Fabricated prototype design; modeled and demonstrated initial radar element performance.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Continue radar modeling and demonstration activities; conduct air ship material risk reduction activities. ***FY 2014 Plans:*** Will complete radar demonstration and air ship risk reduction activities.			
Accomplishments/Planned Programs Subtotals	23.620	21.000	3.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• RDTE: BA07: PE0603283E: *Advanced Aerospace Systems*	5.000	5.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	267.900
• RDTE: BA07: PE0603203F: *Advanced Aerospace Sensors*	1.900	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	1.900

Remarks

0603203F, Advanced Aerospace Sensors (AAS), funds many efforts. The funding line shown here is that portion of AAS dedicated to ISIS support.

D. Acquisition Strategy

This is a Cost-Plus-Fixed-Fee contract with a total value of $462M. The project is being funded with a cost sharing agreement between 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.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
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*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Development	C/CPFF	Lockheed Martin:Palmdale, CA	-	23.620	Nov 2011	21.000	Jan 2013	3.000	Dec 2013	-		3.000	Continuing	Continuing	462.000
		Subtotal	0.000	23.620		21.000		3.000		0.000		3.000			462.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	23.620		21.000		3.000		0.000		3.000			462.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
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*

ISIS Schedule

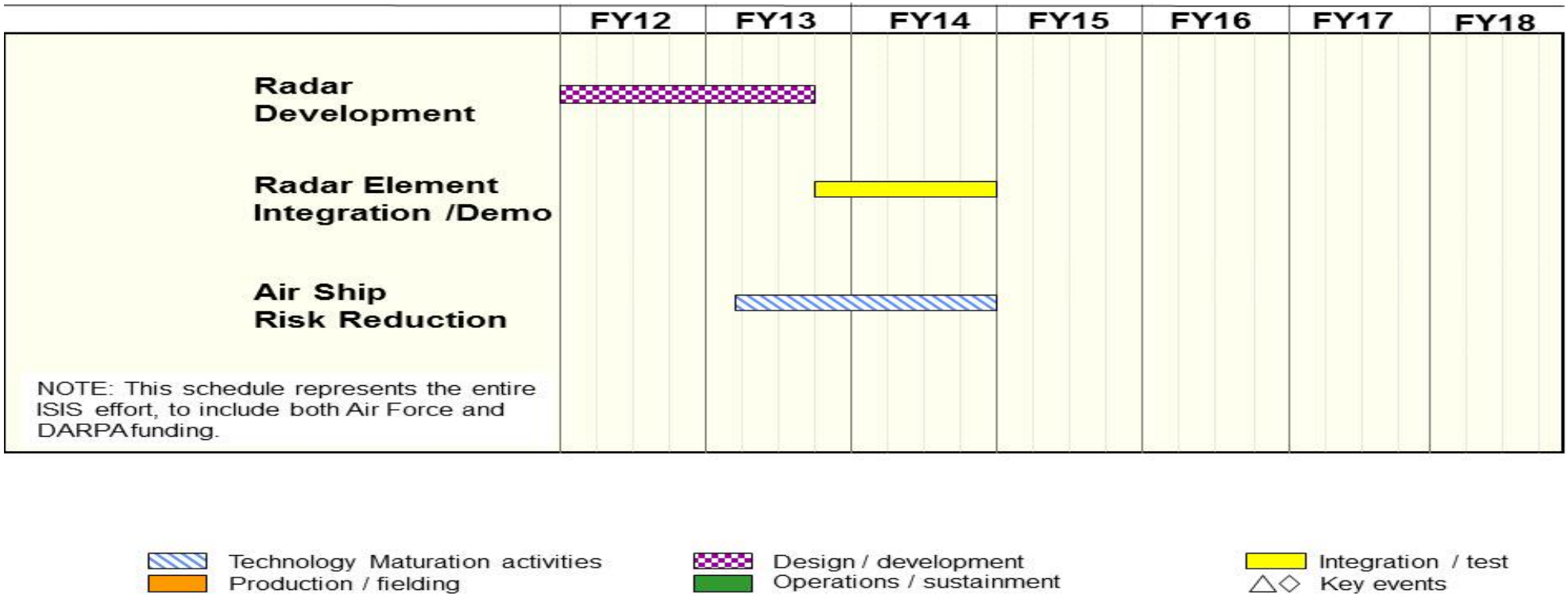


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 675372: *Integrated Sensor IS Structure*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Radar Development	1	2012	3	2013
Radar Element Integration/Demo	4	2013	4	2014
Air Ship Risk Reduction	1	2013	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
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)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
676019: *Blue Devil*	-	65.401	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	65.401
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

FY 2012 appropriation includes $63.0M of Overseas Contingency Operations (OCO) funding for Blue Devil Block 2 (airship) development.

A. Mission Description and Budget Item Justification

The Blue Devil Block 2 (BD2) system was an Air Force led single ship technology and concept demonstation of multiple intelligence sensors, cross-platform tipping and cueing of fused SIGINT data, wide area and high-definition (HD) EO/IR motion imagery on a persistent lighter-than-air (LTA) airship. BD2 was being developed to employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station. This effort would have directly supported multiple validated CENTCOM urgent operational needs, and contributed directly to force protection and counter Improvised Explosive Device (IED) missions for coalition Forces. BD2 was a rapid acquisition technology demonstration that was initiated under an Army contract in the 1st Quarter of FY 2010.

The BD2 project development was stopped by the Air Force, with concurrence from DEPSECDEF, in the 2nd Quarter of FY 2012 due to multiple technical challenges and the Air Force determination that the BD2 airship could not reliably be delivered and employed within acceptable cost, schedule and performance risks. All previously planned efforts on this project were stopped after the release of a Congressional Defense Committees notification memo signed by the DEPSECDEF on 27 March 2012. The BD2 assets developed and acquired to date, to include the government furnish equipment (GFE), have been packed and shipped to a short term facility in Greenville, TX managed by the 645 AESG (BIG SAFARI SPO). Disposition of the BD2 stored assets and components will be made available to other projects, programs or initiatives; how, what, and when aspects have not been determined to date.

This program was in Budget Activity 7, Operational System Development because this budget activity included 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 2012	FY 2013	FY 2014
Title: Blue Devil 2	65.401	0.000	0.000
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. Procurement of the ARGUS IS Electro-Optical/Infra-Red (EO/IR) camera system for enhanced high resolution imagery.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: The development, integration, test and preparation for transport and deployment efforts of the Blue Devil 2 system were stopped by the Air Force in 3rd Quarter FY 2012. Efforts to address and satisfy COCOM operational needs for long dwell / persistent ISR requirements were re-directed to the development and integration of multi-INT sensor solutions on existing or other developmental air vehicles assessed to be able to deliver this long endurance capability to the warfighter with lesser risk to cost, schedule and performance.			
Accomplishments/Planned Programs Subtotals	65.401	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• N/A: .	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Blue Devil Block 2 (BD2) initiative was being executed by the 645 AESG (BIG SAFARI SPO) to field this COCOM requested, SECDEF mandated, long endurance quick reaction capability to address COCOM urgent operational needs for long dwell, persistent ISR requirements. The acquisition strategy to develop a long endurance, persistent ISR capability for the COCOMs was re-evaluated and based on the Air Force's decision, with DEPSECDEF concurrence, the effort was stopped in the 4th Quarter of FY 2012 due to unforeseen technological challenges and the inability for the BD2 development team to deliver within planned cost, schedule and performance.

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
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*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Airship Development	SS/CPFF	MAV-6:Vicksburg, MS	-	63.000	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	
ARGUS EO Sensor Development	SS/FFP	BAE:Nashua, NH	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Sensors, Datalinks, GFE Integration	C/FFP	Various:Location not provided.	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Sensor Integration and Test Support	SS/CPFF	L-3Com:Greenville, TX	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
Operational Demonstration Support	C/CPAF	Various:,	-	0.000		0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	63.000		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	SS/CPFF	645 AESG:Dayton, OH	-	2.401	Dec 2011	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	2.401		0.000		0.000		0.000		0.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force			DATE: April 2013
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*

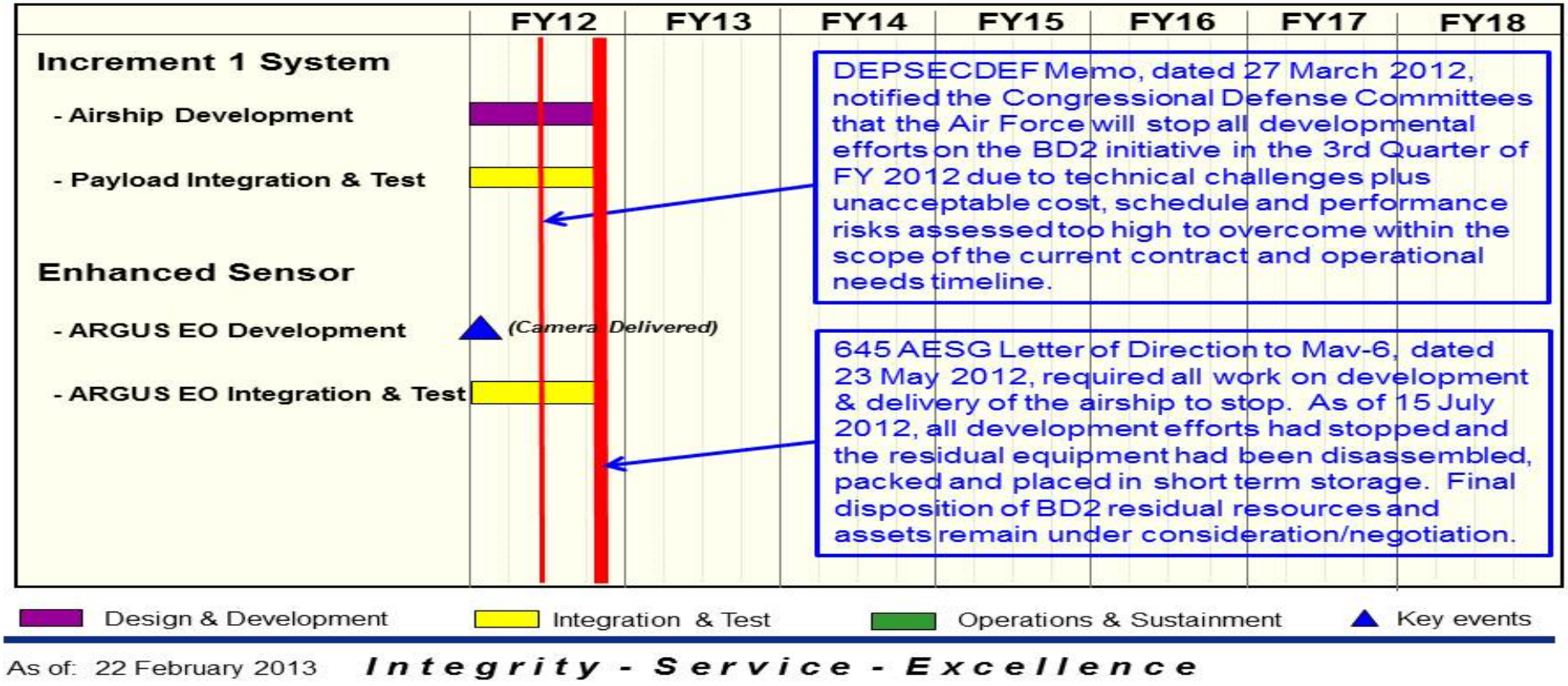
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	65.401		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
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*

U.S. AIR FORCE

Blue Devil Block 2 Schedule



As of: 22 February 2013 *Integrity - Service - Excellence*

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
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*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1 - Airship Design & Development	1	2012	4	2012
Increment 1 - Integration and Test	1	2012	4	2012
Increment 2 - ARGUS EO Integration and Test	1	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013
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 67A026: *MAGIC*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
67A026: *MAGIC*	-	19.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Medium Altitude Global ISR and Communications (MAGIC) project is an Air Force led technology and concept development to test the ability for a remotely piloted aircraft (RPA) to stay aloft in the medium altitude structure for a multiple day duration with a minimum of 1,000 pounds payload capacity of intelligence, surveillance and reconnaissance sensor sytems. The MAGIC concept was initiated by OSD/DDR&E in FY 2010 in response to five COCOMs ranking this type of initiative as the highest priority for a joint concept and tecnology demonstration (JCTD). In FY 2011, the Air Force accepted this initiative as the sponsor and MAGIC was subsequently removed from consideration as a JCTD and transitioned into the Air Force as a developmental project.

Data gathered from the development of the MAGIC project will support end-to-end long endurance ISR planning. Persistent ISR supports both regular and irregular warfare. The challenge to supporting regular and irregular warfare is the integration of legacy ISR architectures with emerging end-to-end infrastructures. The MAGIC project will provide the USAF with critically needed data regarding sensor and aircraft performance parameters at a multiple day duration at medium altitude flight. This data will augment the Persistent ISR study completed by ACC and AFMC in 2nd Quarter FY 2011 and the AF/A9 Endurance UAV study completed in 3rd Quarter of FY 2012. This project is designed to address the requirement laid out in two separate joint urgent operational needs (JUON) for long dwell and persistent ISR. The objectives laid out in the JCTD competition and selection is being honored by the Air Force which will test the MAGIC project on an RPA for a flight duration of five days (120 hours) with a minimum sensor payload of 1,000 pounds at 20,000 feet altitude.

In FY 2010, OSD/DDR&E (now ASD/R&E) provided $5M of initial funding to AFRL to initiate the MAGIC project. In FY 2011, ASD/R&E provided an additional $5M to keep the MAGIC project development moving forward. The Air Force followed suit and provided $10M of FY 2011 below threshold reprogramming (BTR) to allow the Aurora Flight Sciences' RPA development team to set up an operational endurance engine bench test and software integrations lab in preparation for an inflight five-day duration demonstration of the Orion RPA at a later date.

The last week of January 2012, Aurora Flight Science performed a 123 hour duration endurance engine bench test. In December 2012, Aurora Flight Sciences assembled all the aircraft components of the Orion RPA at their Manassas, VA facility to begin a series of ground testing efforts in preparation for the first flight series of tests projected to be conducted at NAWS China Lake, CA in the 3rd Quarter of FY 2013. As of February 2013, the majority of the electrical and avionics continuity checks to include multiple engine runs have been completed. Slow speed taxi tests are the next milestone in their master schedule and they should commence and complete in March 2013. First flight series testing is projected for 3rd and 4th Quarters of FY 2013 at NAWS China Lake, CA.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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 67A026: *MAGIC*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2012	FY 2013	FY 2014
Title: MAGIC	19.000	0.000	0.000
Description: Development of a systems integration labratory (SIL) for aircraft controls and fault tolerance maturation through modeling and simulation tools, and continuation of endurance studies to identify mean time between failures on key airframe and flight control components, sensor system components, and communication data links in preparation for the integration of components in the development of a long duration, ISR sensor carrying Remotely Piloted Aircraft with the capacity to stay aloft for five days with a minimum of 1,000 pounds of sensor payload in a flight structure at or above 20,000 feet altitude. ***FY 2012 Accomplishments:*** Continued development of avionics and flight controls software, sensor systems and data links, and airframe and power plant components that will enable the ground, taxi and short duration first flight testing of the long duration, ISR sensor carrying RPA concept with a proposed capacity to stay aloft for five days with a minimum of 1,000 pounds of sensor payload in a flight structure at or above 20,000 feet altitude.			
Accomplishments/Planned Programs Subtotals	19.000	0.000	0.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• N/A: .	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Medium Altitude Global ISR and Communications (MAGIC) initiative is being executed by the 645 AESG (BIG SAFARI SPO) to develop a COCOM requested long endurance remotely piloted aircraft (RPA) to address urgent operational needs for long swell, persistent ISR requirements. The acquisition strategy for the Air Force to develop a long endurance, persistent ISR capability for the COCOMs was an outgrowth of a joint capabilities technology demonstration (JCTD) started in FY 2010. Current status of this initiative, contracted with Aurora Flight Sciences and their Orion RPA, are: the completion of the studies analysis, development of a prototype air vehicle, bench testing of engines and other aircraft components, ground continuity testing of select avionics, flight controls, and engine components and slow speed ground taxi. Next milestone for this initiative will be to determine airworthiness by flight testing the Orion RPA in a series of short duration flights in 3rd Quarter FY 2013. Those results will determine if the Air Force continues this development effort to a follow-on 120-hour duration flight test demonstration projected for 2nd Quarter FY 2014. Concurrent efforts will continue through FY 2013 between the Aurora Flight Sciences production and management teams and the BIG SAFARI SPO to identify best of bred sensor systems and the availability of government furnished equipment (GFE) to fulfill the proposed payload configurations for this developmental project.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
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 67A026: *MAGIC*

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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force		DATE: April 2013
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 67A026: *MAGIC*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Design and Development	C/CPAF	Not specified.:Manassas, VA	-	19.000	Mar 2012	0.000		0.000		-		0.000	Continuing	Continuing	
		Subtotal	0.000	19.000		0.000		0.000		0.000		0.000			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	19.000		0.000		0.000		0.000		0.000			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force		DATE: April 2013
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 67A026: *MAGIC*

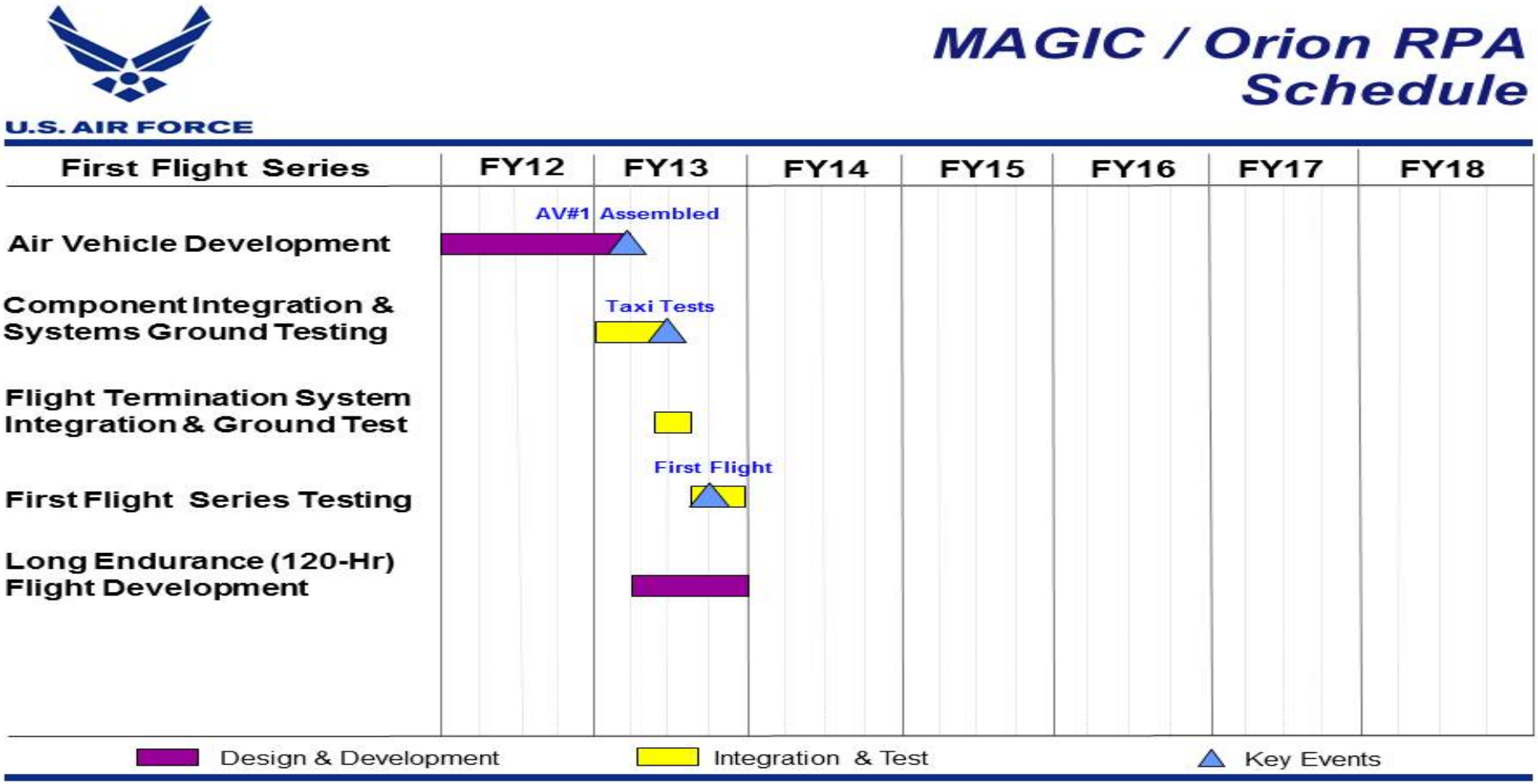


Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305205F: *Endurance Unmanned Aerial Vehicles*	**PROJECT** 67A026: *MAGIC*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Air Vehicle Design and Development of Test Prototype	1	2012	1	2013
Component Integration & Systems Ground Testing	1	2013	2	2013
Flight Termination System Integration & Ground Test	2	2013	3	2013
First Flight Series Testing	3	2013	4	2013
Long Endurance (120-Hour) Flight Development	2	2013	4	2013