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

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207F: <i>Manned Reconnaissance Systems</i>
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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	-	13.049	13.316	13.491	-	13.491	13.685	13.926	14.177	14.432	Continuing	Continuing
674754: RC-135 Systems	-	13.049	13.316	13.491	-	13.491	13.685	13.926	14.177	14.432	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 RC-135 Operational Systems Development and enhancement activities project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 programs and their specialized mission systems -both air and ground. Extensive utilization of commercial-off the-shelf (COTS) based solutions allows rapid fielding of needed capabilities through continuous technology refresh cycles and diminishing manufacturing sources (DMS)/vanishing vendor items (VVI) logistics mitigation efforts. The results of these efforts provide for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations for integration into the various systems baseline configurations.

These activities are managed by the Air Force through the 645th Aeronautical System Group (645 AESG, a.k.a. BIG SAFARI Systems Program Office or SPO), Aeronautical Systems Center, Air Force Materiel Command, Wright Patterson AFB, OH. BIG SAFARI manages engineering, ground and support systems modifications, integration, flight testing, product assurance, acceptance testing, logistics, and training activities.

Aircraft, aircraft sensor systems, and associated ground support system engineering planned for FY 2014 include support for two distinct RC-135V/W RIVET JOINT configurations [Baselines 11 & 12], two distinct RC-135U COMBAT SENT configurations [Baselines 4 & 5] and two distinct RC-135S COBRA BALL configurations [Baselines 4+ & 5]. The world-wide challenge of keeping pace against technologically agile targets used by both nation and non-nation-state adversaries and the rapid evolution of COTS technologies demands a responsive and adaptive acquisition strategy for fielding "baseline capabilities" that are logistically supportable at all locations. BIG SAFARI uses an incremental "baseline" strategy to mitigate risk, find affordable solutions and field needed capabilities on the aircraft and ground support and training systems. Obsolescence and diminished manufacturing sources/vanishing vendor items (DMS/VVI) are addressed with each baseline upgrade as well as annually as part of the sustainment responsibilities.

RIVET JOINT Baseline 11 upgrades consist of, but not limited to, precision multi-angle directional finding communications intelligence (DF COMINT) capability, electronic intelligence (ELINT) recorder expansion, precision ELINT digital signals intelligence system (DSS) integration, wideband global satellite communications (WGS) enhanced integration, continued communications, navigation, surveillance/air traffic management (CNS/ATM) and required navigational performance (RNP) compliant cockpit avionics enhancements, and new steerable beam antenna. RIVET JOINT Baseline 12 upgrades consist of, but not limited to, increased digital signal exploitation, increased digital signal recorder bandwidth, enhanced spatial processing/exploitation, enhanced weather radar, AF-DCGS interoperability, operator work station 3-D map projection, and new steerable beam antenna.

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				
3600: Research, Development, Test & Evaluation, Air Force		PE 0305207F: Manned Reconnaissance Systems				
BA 7: Operational Systems Development						
COMBAT SENT Baseline 4 upgrades consist of, but not limited to, LN-120 nav system, new radio frequency distribution (RFD), precision ELINT (DSS), airborne parametric measurement system (APMS) upgraded digital backend, aircrew capability extension system (ACES) reachback connectivity, RJ Baseline 9 COMINT, and NCCT integration. COMBAT SENT Baseline 5 upgrades consist of, but not limited to, continued CNS/ATM and RNP compliant cockpit avionics enhancements, active ranging and geolocation capability, cooling duct improvements, precision ELINT (CORVUS) super wideband compressive receiver, RJ Baseline 11 COMINT, WGS enhanced integration, and communications upgrade to include Multifunctional Information Distribution System Joint Tactical Radio System (MIDS-J).						
COBRA BALL Baseline 4+ upgrades consist of, but not limited to, LN-120 nav system, ACES reachback connectivity, RJ Baseline 9 COMINT, COMINT directional finder (DF), foreign instrumentation signals intelligence(FISINT) intercept coordinator, continued CNS/ATM and RNP compliant cockpit avionics enhancements, and liquid cooling system. COBRA BALL Baseline 5 upgrades consist of, but not limited to, RJ Baseline 11 COMINT, MIRA sensor/processor upgrade, MCS optical upgrade, WGS enhanced integration, communications upgrade to include MIDS-J, continued CNS/ATM and RNP compliant cockpit avionics enhancements.						
Activities also include studies and analysis to support both current program planning and execution and future program planning.						
This program is in Budget Activity 7, Operational Systems 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 fielding 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		13.049	13.316	13.491	-	13.491
Current President's Budget		13.049	13.316	13.491	-	13.491
Total Adjustments		0.000	0.000	0.000	-	0.000
• 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		0.000	0.000	0.000	-	0.000
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2012	FY 2013	FY 2014
Title: Baseline Configuration Development				13.049	13.316	13.491
Description: Non-recurring engineering (NRE) for Baseline system developments and enhancements to improve mission capabilities						
FY 2012 Accomplishments:						

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2012	FY 2013	FY 2014
Supports design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-11, CS BL-5, and CB BL-5) and their specialized mission systems for the collection of both air and ground signals FY 2013 Plans: Continue to support design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-12, CS BL-5, and CB BL-5) and their specialized mission systems for the collection of both air and ground signals FY 2014 Plans: Will continue to support design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-12, CS BL-5, and CB BL-5) and their specialized mission systems for the collection of both air and ground signals												
Accomplishments/Planned Programs Subtotals										13.049	13.316	13.491
D. 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	
• APAF: BA05: DARP01: RC-135 Modifications and Spares	201.596	209.361	204.708		204.708	232.289	231.893	229.756	233.892	Continuing	Continuing	
• OPAF: BA04: 846070: DARP/RC-135 Other Procurement	27.841	24.176	24.528		24.528	24.929	25.376	25.833	26.298	Continuing	Continuing	
• RDT&E: BA07: PE 0304260F/675180: RC-135 Airborne SIGINT Enterprise Development	34.809	40.160	32.331		32.331	13.185	35.243	36.810	37.472	Continuing	Continuing	
Remarks												
E. Acquisition Strategy												
The RC-135 RIVET JOINT, COBRA BALL, and COMBAT SENT aircraft are maintained and baseline / incremental upgrades and quick reaction capabilities (QRC) developments are acquired through the 645th Aeronautical Systems Group (BIG SAFARI Program Office) in accordance with the BIG SAFARI Program Management Directive (PMD), and the BIG SAFARI Class Justification and Approval (J&A) document for acquisition of supplies and services using other than full and open competition criteria. The supplies and services procured by 645 AESG under their J&A to satisfy National Security (FAR 6.302-6) requirements are supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management from developmental engineering to system retirement												

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("cradle to grave" support). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements. F. 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 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 0305207F: Manned Reconnaissance Systems				PROJECT 674754: RC-135 Systems					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
L-3 Communications	SS/ Various	L-3 Com:Greenville, TX	-	13.049	Dec 2011	13.316	Dec 2012	13.491	Dec 2013	-		13.491	Continuing	Continuing	TBD
Subtotal			0.000	13.049		13.316		13.491		0.000		13.491			
Remarks															
All activity is based around the Programmed Depot Maintenance (PDM) airframe schedule which includes multiple contracts and organizations with overlapping and continuous periods of performance. Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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		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	13.049		13.316		13.491		0.000		13.491			

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0305207F: Manned Reconnaissance Systems			PROJECT 674754: RC-135 Systems			
	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	
Remarks RC-135 Program Manager has determined that PMA will be funded with RIVET JOINT APAF appropriation and included in the P-Doc, Mod 4263.										

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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 0305207F: Manned Reconnaissance Systems

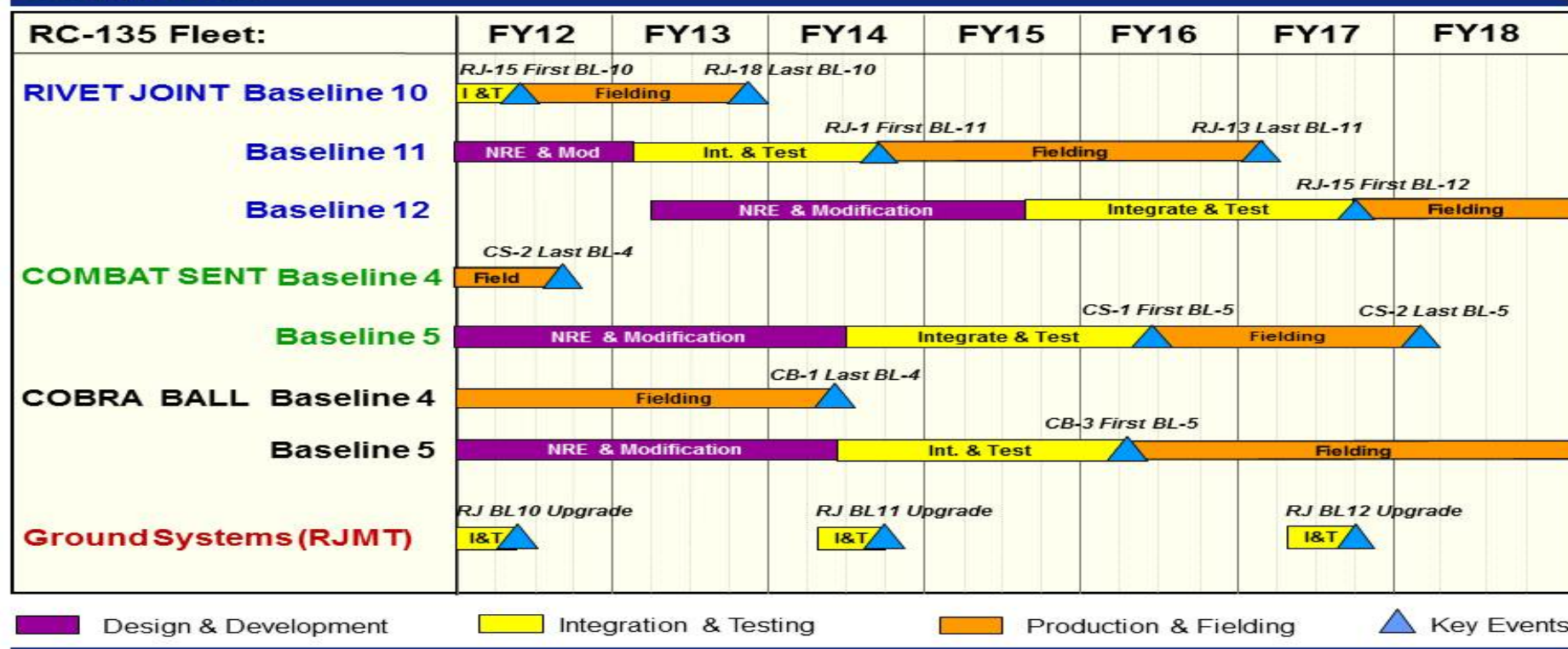
PROJECT

674754: RC-135 Systems



Manned Reconnaissance Systems (RC-135) Schedule

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207F: <i>Manned Reconnaissance Systems</i>	PROJECT 674754: <i>RC-135 Systems</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
RIVET JOINT Baseline 10 Integration, Test & Fielding	1	2012	4	2013
RIVET JOINT Baseline 11 Development, Integration, Test & Fielding	1	2012	1	2017
RIVET JOINT Baseline 12 Development, Integration, Test & Fielding	2	2013	4	2018
COMBAT SENT Baseline 4 Fielding	1	2012	3	2012
COMBAT SENT Baseline 5 Development, Integration, Test & Fielding	1	2012	1	2018
COBRA BALL Baseline 4 Fielding	1	2012	2	2013
COBRA BALL Baseline 5 Development, Integration, Test & Fielding	1	2012	4	2018
Ground Systems / RJMT Baseline 10 Integration & Test	1	2012	2	2012
Ground Systems / RJMT Baseline 11 Integration & Test	2	2014	3	2014
Ground Systems / RJMT Baseline 12 Integration & Test	2	2017	3	2017