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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>
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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	170.714	166.989	149.268	0.000	149.268	129.610	145.280	145.995	148.168	Continuing	Continuing
675180: <i>RC-135 (Airborne SIGINT Development - RC-135)</i>	45.995	42.619	27.328	0.000	27.328	33.784	43.085	30.486	30.922	Continuing	Continuing
675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>	22.728	58.033	29.751	0.000	29.751	11.182	11.646	3.081	3.133	Continuing	Continuing
675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>	57.951	32.837	59.048	0.000	59.048	60.227	68.736	86.762	88.032	Continuing	Continuing
675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>	17.811	20.952	15.083	0.000	15.083	6.494	6.697	11.694	11.905	Continuing	Continuing
675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>	10.085	5.913	6.022	0.000	6.022	6.029	6.056	9.081	9.211	Continuing	Continuing
675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>	16.144	6.635	12.036	0.000	12.036	11.894	9.060	4.891	4.965	Continuing	Continuing

A. Mission Description and Budget Item Justification

(U) This PE provides signals intelligence (SIGINT) development efforts for all USAF airborne platforms. The funds in this PE are distributed among all Airborne SIGINT Enterprise (ASE) projects based on the development priorities established by the USAF SIGINT Capabilities Working Group (SCWG) in order to build a total SIGINT capability. As a result, the USAF will move funds between projects periodically to develop the highest priority projects in response to urgent warfighter needs. This PE will participate in the development, integration, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability. Modernization efforts include sensors for the platforms and their appropriate interfaces with the Air Force Distributed Common Ground System (AF DCGS). This approach will allow a synergistic development effort to be accomplished while developing a true Air Force-wide capability. This enterprise will use the Air Force Cryptologic Architecture (AFCA) for planning and decision-making and, in turn, employ the Joint Airborne SIGINT Architecture (JASA)

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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 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>
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open architecture standards to allow maximum ease of future upgrades and system interoperability. The primary goal of the ASE is to produce an architecture-based, capability-focused SIGINT investment strategy for the USAF.

(U) Funds in any project may be used to fund initiatives in other projects within this PE at the discretion of the SCWG.

(U) Funds in any project can also cover activities to include studies and analysis to support both current program planning and execution and future program planning.

(U) This program is Budget Activity 7, Operational Systems Development, because it involves the development of SIGINT capabilities and integration with operational systems such as the RC-135, U-2, MQ-1/MQ-9, RQ-4, Special Programs (Senior Scout, Liberty Project Aircraft, NCCT SIGINT activities, Small UAS, and others as required), their associated ground stations and data links, and Compass Bright programs.

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	173.160	176.989	0.000	0.000	0.000
Current President's Budget	170.714	166.989	149.268	0.000	149.268
Total Adjustments	-2.446	-10.000	149.268	0.000	149.268
• Congressional General Reductions		-10.000			
• 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	-2.446	0.000	149.268	0.000	149.268

Change Summary Explanation

FY09 reduction for other AF priorities. FY 10 is Congression Reduction due to Global Hawk IOT&E slip. FY 11 reduction is for higher AF priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>				PROJECT 675180: <i>RC-135 (Airborne SIGINT Development - RC-135)</i>				
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	
675180: <i>RC-135 (Airborne SIGINT Development - RC-135)</i>	45.995	42.619	27.328	0.000	27.328	33.784	43.085	30.486	30.922	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			
A. Mission Description and Budget Item Justification												
<p>(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 SIGINT sensors and their associated air and ground components. Through extensive utilization of commercial-off-the-shelf (COTS)-based solutions to fielding of needed capabilities, it also incurs the need for continuous diminishing manufacturing sources integration efforts consistent with the COTS technology cycle.</p> <p>(U) These efforts provide the requisite engineering for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations integrated into the various baseline modifications.</p> <p>(U) These funds will be split between the RIVET JOINT, COMBAT SENT, and COBRA BALL programs. Funding reflects the SIGINT Capabilities Working Group (SCWG) priorities and the accomplishment of other ASE initiatives.</p> <p>(U) This program effort is Budget Activity 7, Operational Systems Development, because it involves Air Force RDT&E necessary to field essential operational capabilities.</p>												
B. Accomplishments/Planned Program (\$ in Millions)												
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total		
MAJOR THRUST: Initiates and continues Non-Recurring Engineering (NRE) for the RC-135 SIGINT Systems. See Classified Budget Exhibits (PE 0305207F) <i>FY 2009 Accomplishments:</i> In FY 2009: Efforts included RIVET JOINT antenna development and tuner improvements. Work also included COBRA BALL and COMBAT SENT low band improvements						45.995	42.619	27.328	0.000	27.328		

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>			PROJECT 675180: <i>RC-135 (Airborne SIGINT Development - RC-135)</i>					
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2010 Plans:</i> In FY 2010: Efforts will include geolocation improvements for COBRA BALL and COMBAT SENT, air surveillance capabilities and antenna improvements on teh RIVET JOINT</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Improvements in ELINT capabilities, EAN 105 antenna integration efforts and software improvements</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>											
Accomplishments/Planned Programs Subtotals							45.995	42.619	27.328	0.000	27.328
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
• PE 0305207F: <i>Manned Reconnaissance Systems, (APAF)</i>	149.042	161.982	149.582	0.000	149.582	209.910	214.139	221.674	225.877	0.000	0.000
D. Acquisition Strategy											
(U) Aircraft, aircraft sensor systems, and associated ground support system modifications planned include the procurement, fielding and logistical support for future RIVET JOINT, COMBAT SENT and COBRA BALL baseline configurations. Development and integration managed by the Big Safari Systems Group; they employ evolutionary acquisition approaches to field incremental capability improvements.											
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 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675180: <i>RC-135 (Airborne SIGINT Development - RC-135)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SIGINT Sensor Development and Integration	SS/CPFF	Sensor development and integration L-3 COM: Greenville, TX	45.995	42.619	Jan 2010	27.328	Jan 2011	0.000		27.328	Continuing	Continuing	Continuing
Subtotal			45.995	42.619		27.328		0.000		27.328			

Remarks

Above contract method/type will be CPFF and FFP

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	45.995	42.619		27.328		0.000		27.328

Remarks

Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675180: *RC-135 (Airborne SIGINT Development - RC-135)*



RC-135 Development Efforts ASE PE

	FY09	FY10	FY11	FY12	FY13	FY14	FY15
RIVET JOINT							
COMBAT SENT							
COBRA BALL							

- | | | |
|---|--|--|
|  Concept activities |  Design / development |  Integration / test |
|  Production / fielding |  Pre-Production |   Key events |

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675180: *RC-135 (Airborne SIGINT Development - RC-135)*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Development of RIVET JOINT mission sensors	1	2009	4	2011
Development of COMBAT SENT mission sensors	1	2009	4	2011
Development of COBRA BALL mission sensors	1	2009	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>
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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
675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>	22.728	58.033	29.751	0.000	29.751	11.182	11.646	3.081	3.133	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the MQ-1/MQ-9 SIGINT sensors and their associated air and ground components. This is an RTD&E effort to integrate SIGINT capability on to the MQ-1/MQ-9 platforms. The sensors shall be capable of collecting technical data and geolocating signals of interest and providing sensor data to a workstation. The integration effort shall include the use of existing sensor suites to the maximum extent possible to minimize design costs and reduce development time lines. Design efforts specific to the Predator or Reaper systems may include, but not be limited to, antennas, EMI reduction, encryption techniques, and changes to the aircraft, ground station, data link, and simulator necessary to accommodate a SIGINT payload and its data throughput.

(U) Funding will begin efforts on antennas, receivers, processors, software development, aircraft integration and ground station upgrades to allow a persistent reconnaissance, surveillance, targeting, and acquisition capability against mission specific threats. Development of a networked capability to other SIGINT platforms will also be initiated.

(U) In accordance with an evolutionary acquisition strategy, a series of ASIP capability improvements will begin preliminary design activities to support software and hardware upgrades in FY10. These upgrades are designed to exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group (SCWG).

(U) This project provides the warfighter with increased combat capability as soon as technology and risk achieve satisfactory levels.

(U) This program effort is Budget Activity 7, Operational Systems Development, because it involves Air Force RDT&E necessary to field essential operational capabilities.

B. Accomplishments/Planned Program (\$ in Millions)

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force							DATE: February 2010				
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B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
MAJOR THRUST: Develop and test a common/scalable SIGINT system for multiple SIGINT platforms (MQ-1 and MQ-9) using an open system architecture. <i>FY 2009 Accomplishments:</i> In FY 2009: Completed the buildup of the ASIP-1C sensor hardware and software in preparation for Factory Acceptance Testing scheduled for 2QFY10. This effort included building three ASIP-1C chassis with associated hardware and the development of two new special signals (Brushawg and Yellowjacket). Completed an initial ASIP-2C design in coordination with the MQ-9 contractor. <i>FY 2010 Plans:</i> In FY 2010: Complete Factory Acceptance Test (FAT) for the ASIP-1C program and then transfer the ASIP-1C assets to the ASIP-2C program (Decision to stop the ASIP-1C program after FAT was approved by OSD in Oct 09). Develop the ASIP-2C prototype for the MQ-9 and prepare to conduct demo flights of the prototype sensor in 2QFY11. <i>FY 2011 Base Plans:</i> In FY 2011: Integrate and demonstrate the ASIP-2C on a surrogate MQ-9 and start the E&MD phase in 4QFY11. <i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.						22.728	58.033	29.751	0.000	29.751	
Accomplishments/Planned Programs Subtotals						22.728	58.033	29.751	0.000	29.751	
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
• PE 0205219F: <i>MQ-9 (APAF)</i>	0.000	0.000	18.283	0.000	18.283	95.362	165.362	168.378	163.294	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	19.865	24.771	6.219	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force	DATE: February 2010
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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 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>
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C. Other Program Funding Summary (\$ in Millions)

<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>
• PE 0205219F (1): <i>MQ-9 (APAF-mods)</i>											

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated onto these platforms using an evolutionary acquisition approach.

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 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SIGINT Sensors Integration	Various/ Various	General Atomics San Diego, CA	0.169	1.483	Jan 2010	6.024	Jan 2011	0.000		6.024	Continuing	Continuing	Continuing
SIGINT Sensors Development	SS/CPIF	Northrop Grumman ESL San Jose, CA	31.702	48.772	Nov 2009	22.956	Nov 2010	0.000		22.956	Continuing	Continuing	Continuing
Subtotal			31.871	50.255		28.980		0.000		28.980			

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management, Various Integration Efforts, & Flight Test	Various/ Various	Various Various	4.744	7.778	Nov 2009	0.771	Nov 2010	0.000		0.771	Continuing	Continuing	Continuing
Subtotal			4.744	7.778		0.771		0.000		0.771			

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.615	58.033	29.751	0.000	29.751			

Remarks
Total Prior Years Cost may include only FY 2009 data.

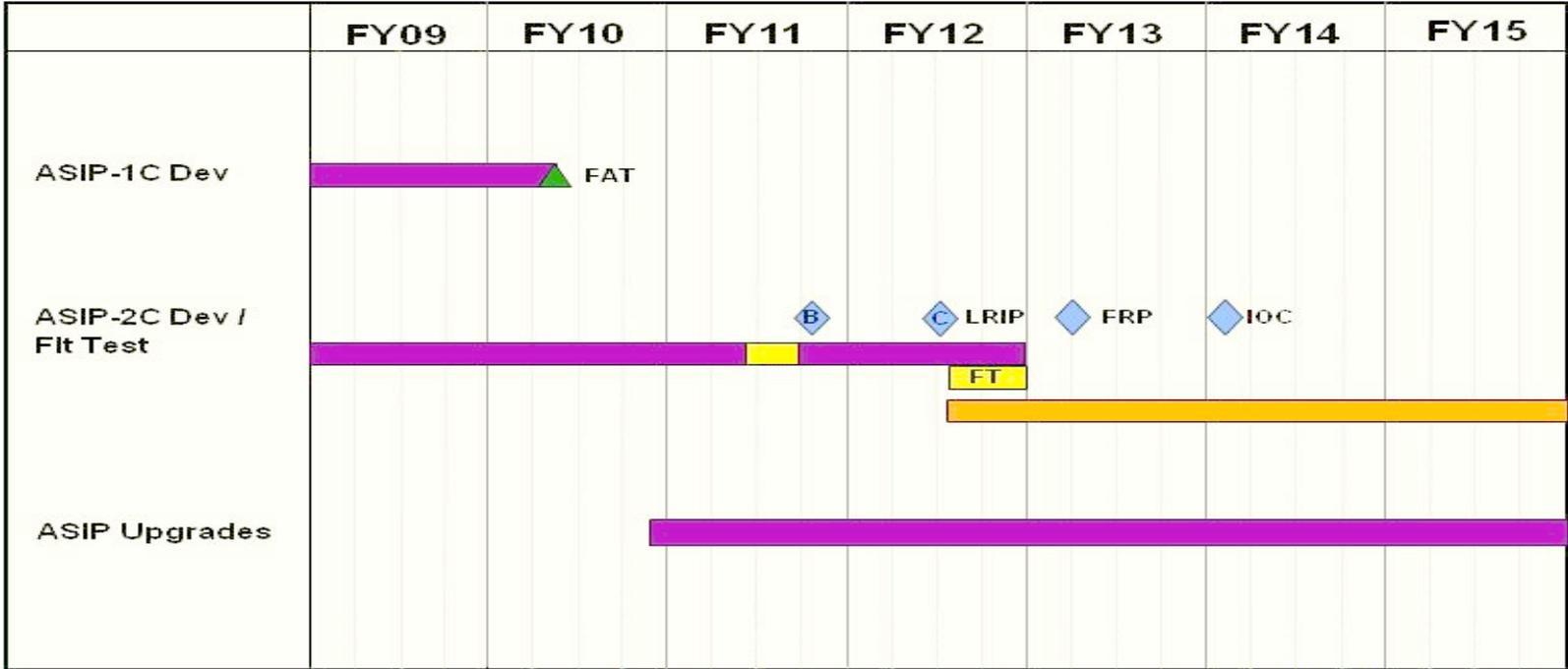
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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675182: <i>MQ-1/MQ-9 (Airborne SIGINT Development - Predator)</i>



ASIP-1C/2C Schedule



- Concept activities
- Production / fielding
- Design / development
- Pre-Production
- Integration / test
- Key events
- Key events

PB11 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
ASIP-1C Development & Flight Test	1	2009	2	2010
ASIP-2C Development & Flight Test	1	2009	4	2011

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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
675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>	57.951	32.837	59.048	0.000	59.048	60.227	68.736	86.762	88.032	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

(U) This project supports the development of the Airborne Signals Intelligence payload (ASIP) sensors for use on multiple platforms as well as projects common to the ASE PE overall to include, but not limited to: Air Force Cryptologic Architecture (AFCA) maintenance, modeling and simulation efforts and NATO Signals Intelligence (SIGINT) efforts.

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the insertion of new capabilities integrated into the ASIP sensors and their associated air and ground components that will be used on/by more than one platform. The common development SIGINT cost element/BPAC also supports development of new sensors capabilities and identifies suitable replacements for components affected by diminishing manufacturing sources. New capabilities are developed by separate projects. The current sensors being developed are the ASIP (which has completed developmental testing on the U-2 and is being tested on the Global Hawk (RQ-4)), and the scalable ASIP payloads for the MQ-1 (ASIP-1C) and MQ-9 (ASIP-2C). The AF has descoped the SIGINT program for the MQ-1 and will transfer the Hardware/Software (HW/SW) to the SIGINT program for the MQ-9 after completion of the factory acceptance testing (FAT). The systems' open architecture and Joint Airborne SIGINT Architecture (JASA) compliant design supports streamlined integration of ASIP onto additional ISR platforms.

(U) The ASIP Family of Systems (FoS) will design and build a common/scalable SIGINT system designed for maximum coverage of the electromagnetic spectrum through the use of an integrated high and low band system. ASIP has delivered developmental units for integration and test on both the RQ-4 and U-2. ASIP-2C will develop a SIGINT sensor for the MQ-9. Capability improvements will be inserted into the ASIP family of sensors through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group.

(U) This strategy provides the warfighter with a near term combat capability with increased capability improvements accomplished based on the evolving threat as soon as technology and risk achieve satisfactory levels. Sensors will be integrated and tested on the various platforms as funding permits.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>

C. Other Program Funding Summary (\$ in Millions)

<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>
• PE 0305220F: <i>RQ-4 Sensor Integration- Sensor Development (APAF)</i>	63.223	58.869	67.667	0.000	67.667	98.321	105.505	106.392	79.439	445.064	0.000
• PE 0305220F (1): <i>RQ-4 Sensor Integration- Sensor Development (APAF - Mods)</i>	101.838	128.265	95.506	0.000	95.506	51.080	5.447	2.960	0.000	0.000	0.000

D. Acquisition Strategy

Signals Intelligence capabilities will be developed and integrated onto various platforms using an evolutionary acquisition approach.

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 2011 Air Force										DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>				PROJECT 675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>					

Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ASIP Baseline Sensor Development/Integration	SS/Various	Northrop Grumman San Jose, CA	129.241	14.841	Jan 2010	3.654	Jan 2011	0.000		3.654	0.000	147.736	Continuing
ASIP Baseline Development/Integration (AFDCGS Ground Control Processor Integration)	SS/CPIF	Lockheed Martin Astronautics Denver, CO	16.141	1.851	Jan 2010	2.489	Jan 2011	0.000		2.489	0.000	20.481	Continuing
ASIP Baseline Development/Integration (AFDCGS Deployable Ground Intercept Facility Integration)	SS/CPIF	Raytheon Falls Church, VA	19.750	2.851	Jan 2010	2.488	Jan 2011	0.000		2.488	0.000	25.089	Continuing
ASIP Upgrades Development	TBD/TBD	Northrop Grumman San Jose, CA	0.000	0.000		46.927	Jan 2011	0.000		46.927	Continuing	Continuing	Continuing
ASIP-1C Development	SS/CPIF	Northrop Grumman San Jose, CA	34.427	7.924	Jan 2010	0.000		0.000		0.000	0.000	42.351	Continuing
ASIP-1C Integration	SS/CPFF	General Atomic Aeronautical Systems, Inc. San Diego, CA	0.266	0.000		0.000		0.000		0.000	0.000	0.266	Continuing
High Band System	SS/CPAF	Northrop Grumman San Jose, CA	4.874	0.000		0.000		0.000		0.000	0.000	4.874	Continuing
Various SIGINT Efforts		Various	5.337	2.600	Jan 2010	2.800	Jan 2011	0.000		2.800	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	Various/ Various	Various											
Subtotal			210.036	30.067		58.358		0.000		58.358			

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
(U) Management, Various Integration Efforts, & Flight Test	Various/ Various	Various Various	37.389	2.770	Jan 2010	0.690	Jan 2011	0.000		0.690	Continuing	Continuing	Continuing
Subtotal			37.389	2.770		0.690		0.000		0.690			

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	247.425	32.837		59.048		0.000		59.048			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

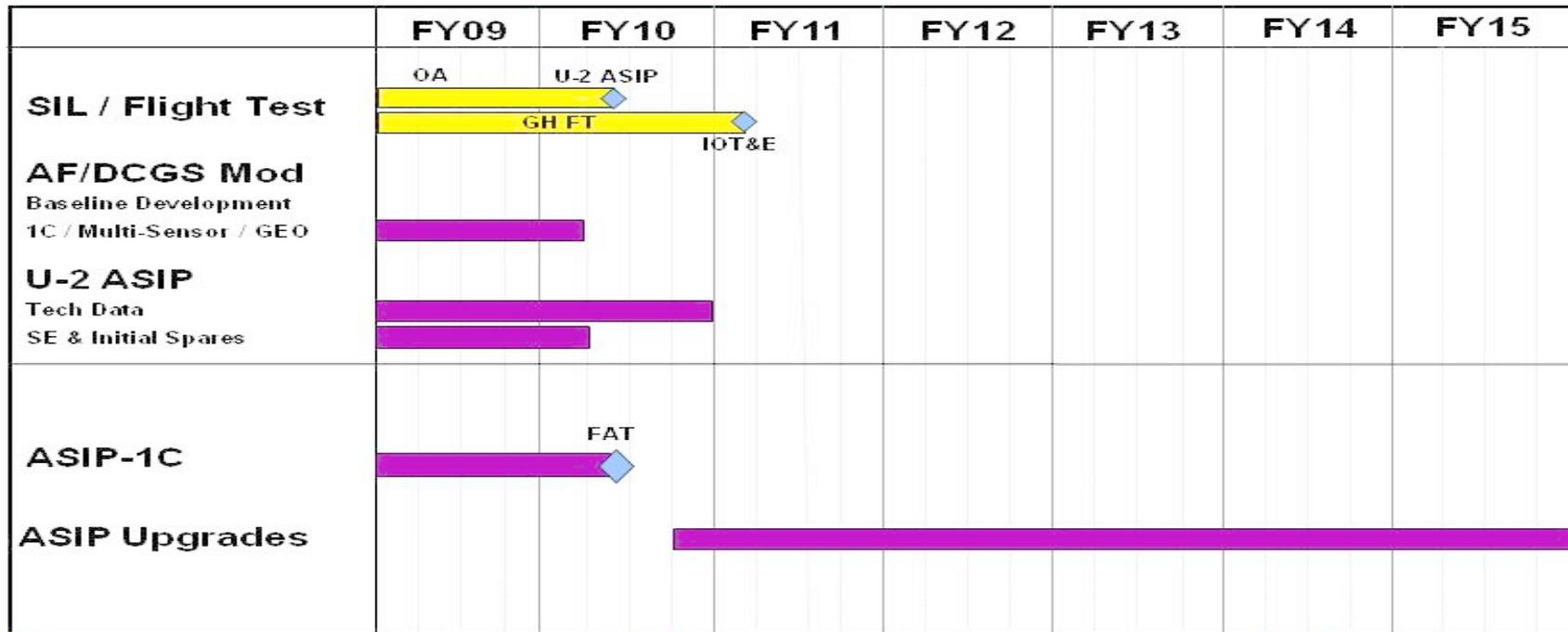
PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675183: *Common Development (Airborne SIGINT Development - Common Development)*



ASIP Common Development Schedule



PB11 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675183: <i>Common Development (Airborne SIGINT Development - Common Development)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
ASIP GH SIL & FT	1	2009	1	2011
AF DCGS Development- ASIP 1C (Multi-Sensor & GEO)	1	2009	1	2010
ASIP U-2 Tech Data	1	2009	4	2010
ASIP U-2 Support Equipment & Initial Spares	1	2009	1	2010
ASIP 1C Development & Flight Test	1	2009	2	2010
ASIP 2C Development & Flight Test	1	2009	4	2011
ASIP Upgrades	4	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>				PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>			
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
675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>	17.811	20.952	15.083	0.000	15.083	6.494	6.697	11.694	11.905	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
Note											
(U) This project covers RQ-4 SIGINT development integration in the ASE PE.											
A. Mission Description and Budget Item Justification											
(U) This project supports sensor integration and test, flight test, design studies, engineering analysis and non-recurring engineering of the air and ground components for the Global Hawk SIGINT sensors. Also identifies suitable replacements for components affected by diminishing manufacturing sources.											
(U) This project provides the warfighter with a near-term, increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels. Capability improvements will be inserted into the ASIP family of sensors through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group											
(U) Funding includes completion of developmental logistics tasks associated with the design, development, and integration of ASIP and the ASIP Depot standup. Additional requirements include the Logistics Support Analysis (LSA) Taskings which consists of design and development of support equipment, technical orders, training courses/aids/devices, and shipping containers common to ASIP for U-2 and Global Hawk.											
(U) This program effort is equivalent to RDT&E budget activity 7, Operational Systems Development, because it involves Air Force R&D necessary to field essential operational capabilities.											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Design, develop, test SIGINT capabilities for ASIP sensors, support equipment, technical orders, training, and shipping containers.							17.811	20.952	15.083	0.000	15.083

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>		PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Continued ASIP development and testing on the Global Hawk. Awarded Phase 1 of the Logistics Task contract. Delivered the Flight Line Support Equipment, the Back Shop Support Equipment and corresponding technical data and identified and purchased diminishing manufacturing source items.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Complete the development and testing of the ASIP on the Global Hawk. Continue the Logistics contract effort, to include awarding Phase 2 of the Logistics Task contract. Deliver additional Flight Line Support Equipment and peculiar support equipment and shipping containers. Develop Type 1 operator and maintenance training courses. Identify and purchase diminishing manufacturing source items. Award the Upgrades contract to begin development of new signal capabilities/enhancements to be inserted into the current ASIPs.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Complete ASIP Global Hawk Initial Operational and Test Evaluation (IOT&E). Continue the Logistics contract effort, including updating technical data and support equipment. Support the ASIP depot standup. Correct logistical deficiencies found in the Global Hawk Initial Operational and Test Evaluation (IOT&E). Continue new signal capability/enhancements development.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>								
Accomplishments/Planned Programs Subtotals				17.811	20.952	15.083	0.000	15.083

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>

C. Other Program Funding Summary (\$ in Millions)

<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>
• PE 0305220F: <i>RQ-4 Sensor Integration- Sensor Development (APAF)</i>	63.223	58.869	67.667	0.000	67.667	98.321	105.505	106.392	79.439	445.064	0.000
• PE 0305220F (1): <i>RQ-4 Sensor Integration- Sensor Development (APAF-Mods)</i>	101.838	128.265	95.506	0.000	95.506	51.080	5.447	2.960	0.000	0.000	0.000

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated on to this platform using an Evolutionary Acquisition approach.

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 2011 Air Force										DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>				PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>					

Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ASIP Baseline Development	SS/Various	Northrop Grumman Mission Sys San Jose, CA	36.272	6.311	Jan 2010	7.300	Jan 2011	0.000		7.300	0.000	49.883	Continuing
ASIP Upgrades Development	TBD/TBD	Northrop Grumman Mission Sys San Jose, CA	0.000	1.843	Aug 2010	2.261	Jan 2011	0.000		2.261	Continuing	Continuing	Continuing
ASIP LSA Taskings	Various/Various	Northrop Grumman Mission Sys San Jose, CA	7.243	12.798	Jan 2010	5.522	Jan 2011	0.000		5.522	Continuing	Continuing	Continuing
Subtotal			43.515	20.952		15.083		0.000		15.083			

Remarks

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management, Various Integration Efforts, & Flight Test	Various/Various	Various Various	0.550	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Subtotal			0.550	0.000		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>
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Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	44.065	20.952		15.083		0.000		15.083			

Remarks

Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

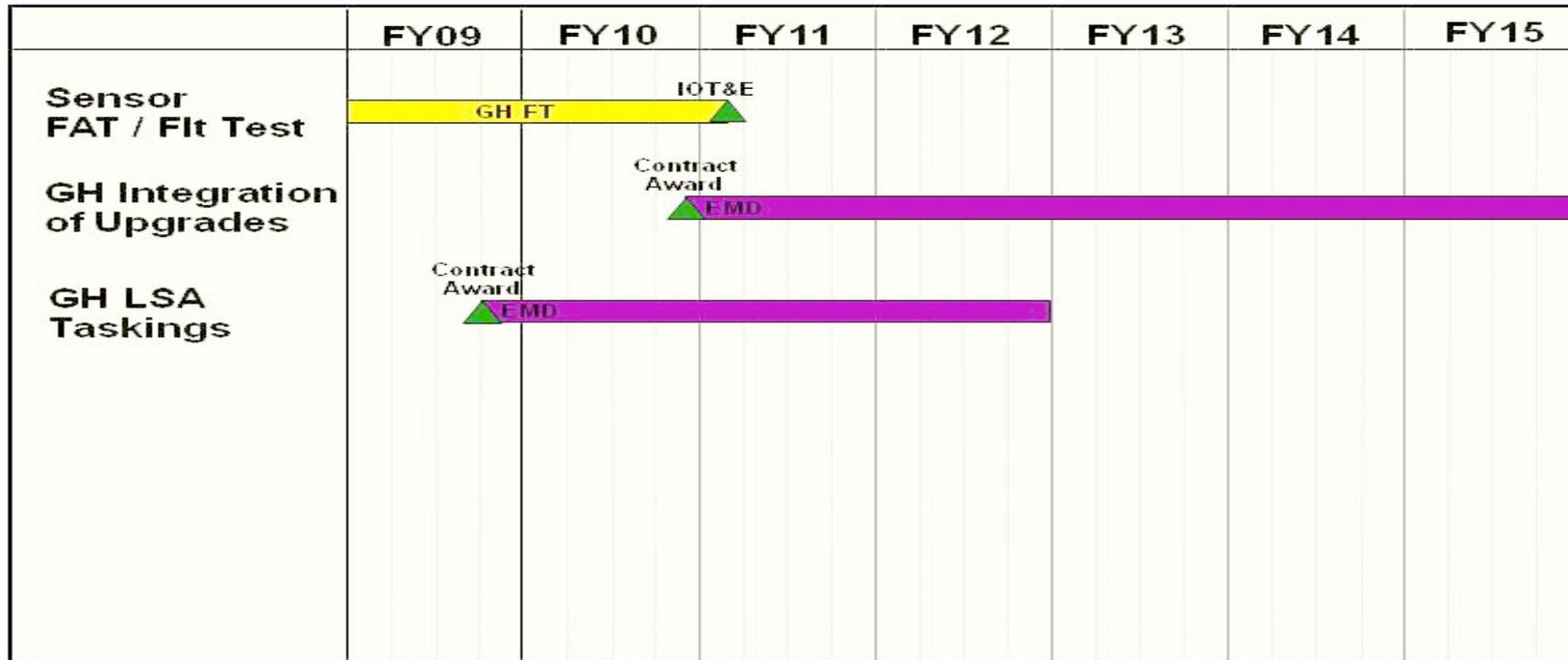
PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675184: *RQ-4 (Airborne SIGINT Development - Global Hawk)*



GH ASIP Schedule



- Concept activities
- Production / fielding
- Design / development
- Pre-Production
- Integration / test
- Key events

PB11 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675184: <i>RQ-4 (Airborne SIGINT Development - Global Hawk)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
GH ASIP Sensor Factory Acceptance Test & Flight Test	1	2009	1	2011
GH ASIP Upgrades	4	2010	4	2011
GH ASIP LSA Taskings	3	2009	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>
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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
675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>	10.085	5.913	6.022	0.000	6.022	6.029	6.056	9.081	9.211	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The COMPASS BRIGHT program develops, demonstrates, and rapidly transitions advanced Air Force-specific SIGINT and radio frequency (RF) measurement and signature intelligence (MASINT) capabilities against emerging and future target signals. It is the only USAF program that pursues SIGINT and RF MASINT technology transition.

(U) The COMPASS BRIGHT program objective is to develop technologies for application in SIGINT and RF MASINT systems/subsystems. Acquisition and production of these developed technologies will occur within the appropriate platform programs.

(U) COMPASS BRIGHT projects are selected through a data call process whereby the USAF evaluates proposals from the labs and industry to select those projects that are most promising. This process is completed the year prior to award.

(U) This program is categorized as Budget Activity 7 because it provides for development of technologies and capabilities in support of operational system development.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Develops projects in the Signals Intelligence and Radio Frequency Measurement & Signature Intelligence areas for transition to platforms.	10.085	5.913	6.022	0.000	6.022

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>
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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY2009: Initiated, continued or completed various SIGINT projects to include, Digital Antenna work, Advanced data correlation efforts, Digital Wideband Pulse Receiver work, and Improved Recording capabilities</p> <p><i>FY 2010 Plans:</i> In FY 2010: Initiated, continued or completed various SIGINT projects to include Advanced Wideband ELINT, Low Probability of Intercept improvements</p> <p><i>FY 2011 Base Plans:</i> In FY2011: Initiates, continues or completes various SIGINT projects to include Processing and search techniques</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>					
Accomplishments/Planned Programs Subtotals	10.085	5.913	6.022	0.000	6.022

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE Not Provided (13400): <i>Activity Not Provided</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

D. Acquisition Strategy

(U) Ongoing COMPASS BRIGHT technology development and demonstration contracts will continue through existing laboratory relationships and other existing contractual vehicles, with future development projects emphasizing full and open competition.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>

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 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Various	Various/ Various	TBD Various	9.190	5.018	Oct 2009	5.127	Oct 2010	0.000		5.127	Continuing	Continuing	Continuing
Subtotal			9.190	5.018		5.127		0.000		5.127			

Remarks

Management Services (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ASC/303 AESW (Aeronautical Systems Wing)	TBD/TBD	ASC WPAFB, OH	0.895	0.895		0.895		0.000		0.895	0.000	2.685	0.000
Subtotal			0.895	0.895		0.895		0.000		0.895	0.000	2.685	0.000

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Cost Totals	10.085	5.913		6.022		0.000		6.022			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

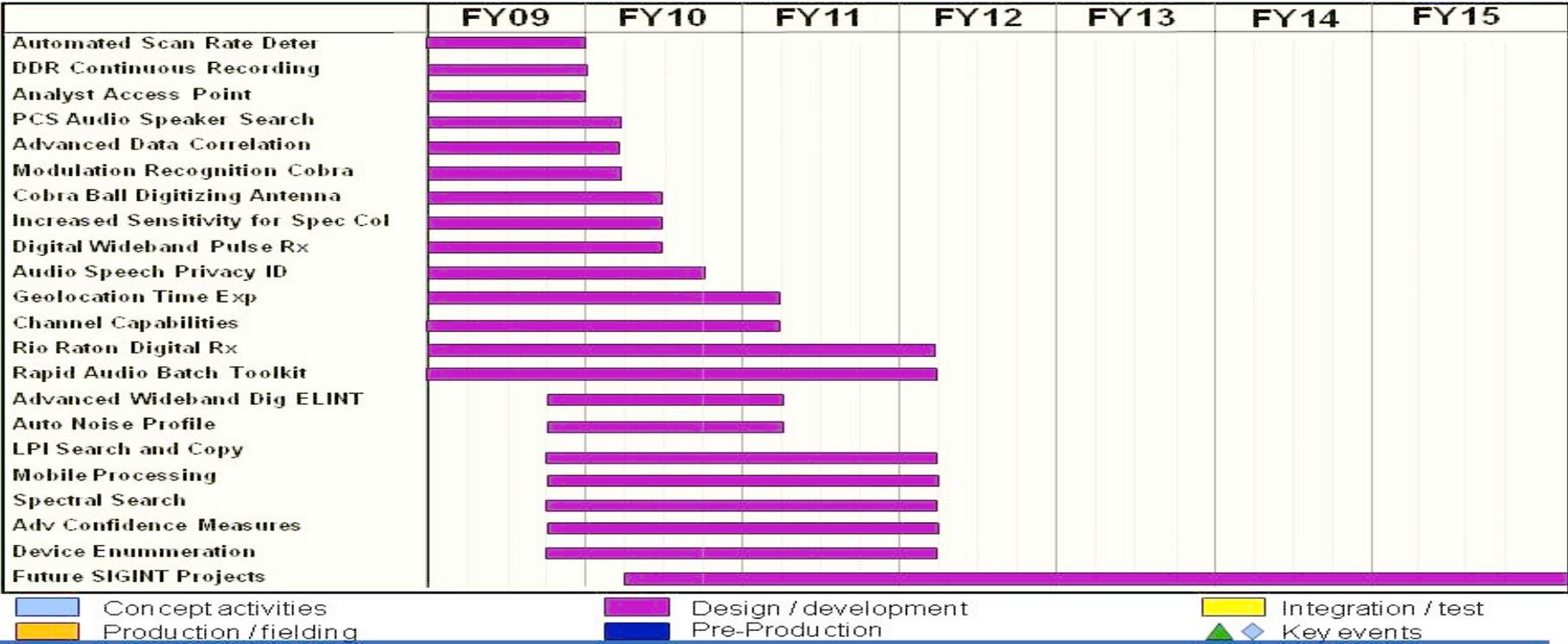
APPROPRIATION/BUDGET ACTIVITY
 3600: Research, Development, Test & Evaluation, Air Force
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0304260F: Airborne SIGINT Enterprise
 (JMIP)

PROJECT
 675185: Compass Bright (Airborne SIGINT
 Development - Compass Bright)



Compass Bright Schedule



Depicted by in stallation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Automated Scan Rate Determination	1	2009	4	2009
DDR Continuous Recording Bandwidth Improvement	1	2009	4	2009
Analyst Access Point	1	2009	4	2009
PCS Audio Speaker Search System	1	2009	1	2010
Advanced Data Correlation (IMOP Classifier)	1	2009	1	2010
Modulation Recognition Using Cell Processors	1	2009	1	2010
Cobra Ball Digitizing Antenna	1	2009	2	2010
Increased Sensitivity for Specialized Collections	1	2009	2	2010
Digital Wideband Pulse Reciever	1	2009	2	2010
Audio Speech Privacy ID Detector	1	2009	4	2010
Geolocation Time Experiment (Geo/Timex)	1	2009	1	2011
Channel Capabilities for Digital SIGINT System	1	2009	1	2011
Rio Raton Digital Receiver	1	2009	4	2011
Rapid Audio Batch Toolkit (RABT)	1	2009	4	2011
Advanced Wideband Digital ELINT	3	2009	1	2011
Auto Noise Profile	3	2009	1	2011
LPI Search and Copy	3	2009	4	2011
Mobile Processing	3	2009	4	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675185: <i>Compass Bright (Airborne SIGINT Development - Compass Bright)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Spectral Search	3	2009	4	2011
Advanced Confidence Measures	3	2009	4	2011
Device Enumeration (IMIE)	3	2009	4	2011
Future SIGINT Projects	2	2010	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>
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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
675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>	16.144	6.635	12.036	0.000	12.036	11.894	9.060	4.891	4.965	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

(U) This project will be used to fund SIGINT development efforts in programs such as SENIOR SCOUT, Liberty Project Aircraft (MC-12W), NCCT SIGINT Projects, Small UAVs and others.

A. Mission Description and Budget Item Justification

(U) This project supports special SIGINT studies as well as the development and integration of advanced SIGINT capabilities on Senior Scout, Liberty Project Aircraft (MC-12W), NCCT SIGINT projects, and other special projects. Through extensive utilization of COTS-based solutions to fielding of needed capabilities, it also incurs the need for continuous diminishing manufacturing sources integration efforts consistent with the COTS technology cycle.

(U) Senior Scout development efforts will include antenna improvements, sensitivity upgrades, and radio frequency distribution upgrades. Additionally, development will begin to allow this platform to network with other SIGINT assets to increase collection accuracy.

(U) This project provides the warfighter with a near term combat capability with increased capability improvements accomplished as soon as technology and risk achieve satisfactory levels. Sensors will be integrated and tested on various platforms as funding permits.

(U) Budget Activity Justification: This program effort is Budget Activity 7, Operational Systems Development, because it involves Air Force RDT&E necessary to field essential operational capabilities.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
	16.144	6.635	12.036	0.000	12.036

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force							DATE: February 2010				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>			PROJECT 675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>					
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
<p>MAJOR THRUST: Develop SIGINT capabilities for special programs such as SENIOR SCOUT, Liberty Project Aircraft, Network Centric Collaborative Targeting (NCCT) projects, small UAVs and others.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Develop various SIGINT capabilities for integration and complete NCCT project.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Develop various SIGINT capabilities for integration.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Develop various SIGINT capabilities for integration.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>											
Accomplishments/Planned Programs Subtotals						16.144	6.635	12.036	0.000	12.036	
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
• PE 0503115F: <i>Tactical Cryptologic Units (ANG) (APAF)</i>	11.697	3.592	3.990	0.000	3.990	4.062	4.138	4.213	4.288	0.000	0.000
D. Acquisition Strategy											
(U) Signals Intelligence (SIGINT) capabilities will be integrated on to various classified platforms using an Evolutionary Acquisition approach.											
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 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SIGINT Sensor Development-1	SS/Various	Lockheed Martin IS&GS Denver, CO	4.828	2.939	Oct 2009	1.100	Oct 2010	0.000		1.100	Continuing	Continuing	Continuing
SIGINT Sensor Development-2	SS/Various	Zeta Associates Fairfax VA	1.855	1.000	Nov 2009	1.513	Oct 2010	0.000		1.513	0.000	4.368	0.000
SIGINT Sensor Fusion and Dissemination	SS/Various	L-3 Comm West Salt Lake City, UT	7.679	0.000		0.000		0.000		0.000	7.679	15.358	0.000
Low Level Signal Detection	SS/Various	Lockheed Martin IS&GS Denver, CO	2.550	0.696	Oct 2009	3.850	Dec 2010	0.000		3.850	0.000	7.096	0.000
Wideband Receivers	SS/Various	Lockheed Martin IS&GS Denver, CO	0.000	2.000	Apr 2010	3.543	Dec 2010	0.000		3.543	0.000	5.543	0.000
Sensor Fusion/ Dissemination	SS/Various	Lockheed Martin IS&GS Denver, CO	0.000	0.000		2.030	Jan 2011	0.000		2.030	0.000	2.030	0.000
NCCT Network Centric Collaborative Targetting	SS/Various	L-3 ComCept Rockwall, TX	5.632	0.000		0.000		0.000		0.000	0.000	5.632	0.000
Subtotal			22.544	6.635		12.036		0.000		12.036			

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	22.544	6.635	12.036	0.000	12.036			

Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

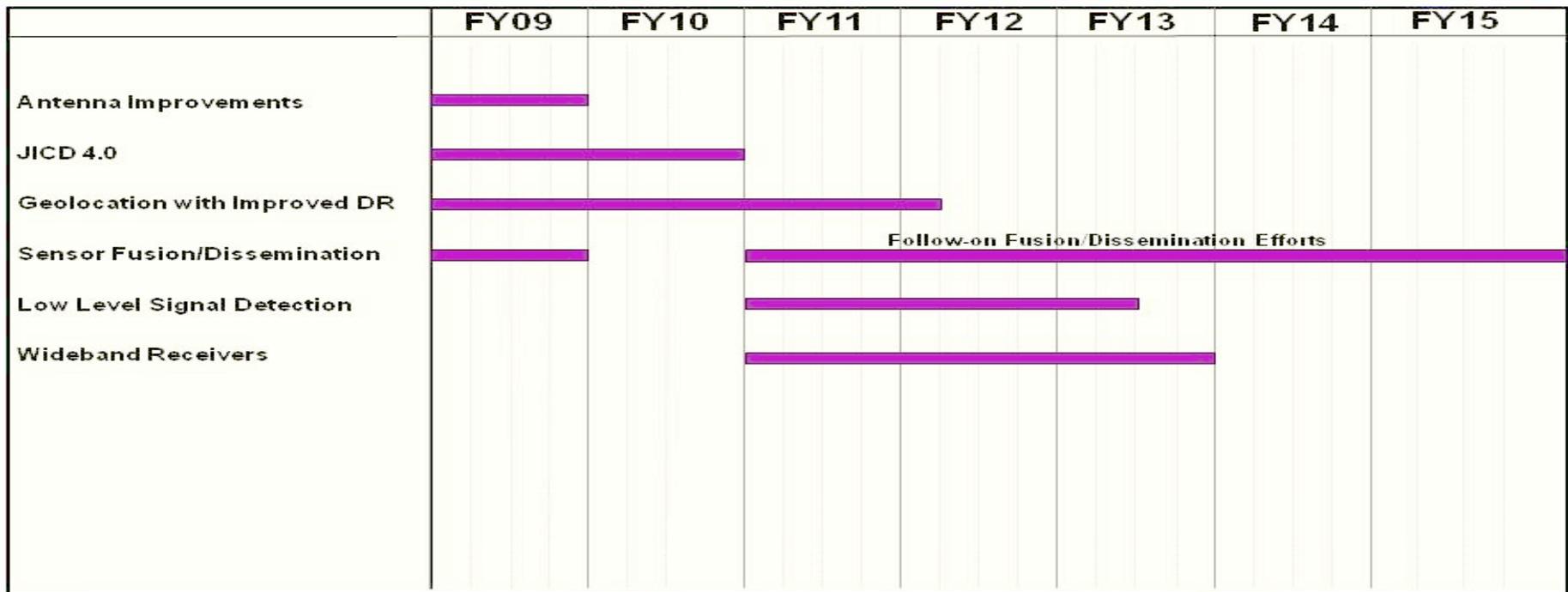
PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

PROJECT

675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*



Special Projects ASE Schedule



Concept activities
 Design / development
 Integration / test
 Production / fielding
 Pre-Production
 Key events

PB10 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0304260F: <i>Airborne SIGINT Enterprise (JMIP)</i>	PROJECT 675186: <i>Special Programs (Airborne SIGINT Development - Special Platforms)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Antenna Improvements	1	2009	4	2009
JCID 4.0	1	2009	4	2010
Geolocation With Improved DR	1	2009	4	2011
Sensor Fusion/Dissemination	1	2009	4	2011
Low Level Signal Detection	1	2011	4	2011
Wideband Receivers	1	2011	4	2011

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