

UNCLASSIFIED

PE NUMBER: 0304260F

PE TITLE: Airborne SIGINT Enterprise (JMIP)

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006	
BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0304260F Airborne SIGINT Enterprise (JMIP)					
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	77.798	117.834	123.304	142.563	145.779	148.346	Continuing	TBD
5180 RC-135 (Airborne SIGINT Development - RC-135)	0.000	0.000	38.465	33.758	33.365	31.375	32.860	Continuing	TBD
5181 U-2 (Airborne SIGINT Development - U-2)	0.000	1.972	0.000	0.000	0.000	0.000	0.000	1.972	1.972
5182 MQ-1/MQ-9 (Airborne SIGINT Development - Predator)	0.000	0.000	2.475	2.588	2.703	2.919	3.016	Continuing	TBD
5183 Common Development (Airborne SIGINT Development - Common Development)	0.000	70.481	53.896	63.347	82.277	86.572	86.993	Continuing	TBD
5184 RQ-4 (Airborne SIGINT Development - Global Hawk	0.000	4.958	10.520	10.770	11.018	11.258	11.438	Continuing	TBD
5185 Compass Bright (Airborne SIGINT Development - Compass Bright)	0.000	0.387	8.250	8.492	8.730	8.964	9.151	Continuing	TBD
5186 Special Programs (Airborne SIGINT Development - Special Platforms)	0.000	0.000	4.228	4.349	4.470	4.691	4.888	Continuing	TBD
(U) This PE began in FY06 and combines signals intelligence (SIGINT) development efforts previously being accomplished in multiple USAF PEs. The funds have been distributed among all seven Airborne SIGINT Enterprise (ASE) projects based on the development priorities established by the USAF SIGINT Capabilities Working Group in order to build a total SIGINT capability. This program element will participate in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.									
(U) <u>A. Mission Description and Budget Item Justification</u>									
(U) This Program Element (PE) funds efforts associated with the Airborne SIGINT (Signals Intelligence) Enterprise (ASE). ASE is the SIGINT modernization framework for all USAF airborne SIGINT collection platforms and their appropriate interfaces with the Air Force Distributed Common Ground System (AF DCGS). This PE 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) open architecture standards to allow maximum ease of future upgrades and system interoperability. The primary goal of ASE is to produce an architecture-based, capability-focused SIGINT investment strategy for the USAF.									
(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 and others as required), their associated ground stations and data links, and Compass Bright programs.									
R-1 Shopping List - Item No. 177-1 of 177-33								Exhibit R-2 (PE 0304260F)	

R-1 Shopping List - Item No. 177-1 of 177-33

Exhibit R-2 (PE 0304260F)

Exhibit R-2, RDT&E Budget Item Justification

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise (JMIP)

(U) **B. Program Change Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	0.000	78.920	116.500
(U) Current PBR/President's Budget	0.000	77.798	117.834
(U) Total Adjustments	0.000	-1.122	
(U) Congressional Program Reductions			
Congressional Rescissions		-1.122	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

(U) FY06 reduction was due to higher priorities. The growth in funds in FY07 reflects the completion of the baseline Airborne Signals Intelligence Payload (ASIP) program and the start of development work on the RC-135 fleet, MQ-1/9, Special Projects such as SENIOR SCOUT, and Compass Bright. In FY08, SIGINT development projects will add work in the ASIP Upgrade Program (Spiral development capabilities to enhance the ASIP baseline program through hardware and software modifications necessary to counter the evolving threat). U-2 Flight Test will be used for ASIP sensor risk education. BPAC 675181 funds were moved to BPAC 675184 to support higher department priorities.

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Exhibit R-2a, RDT&E Project Justification

DATE

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5180 RC-135 (Airborne SIGINT
Development - RC-135)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5180 RC-135 (Airborne SIGINT Development - RC-135)	0.000	0.000	38.465	33.758	33.365	31.375	32.860	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) These funds will be split between the RIVET JOINT, COMBAT SENT, and COBRA BALL programs.

(U) **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 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.

(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.

(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.

(U) RC-135 Breakdown of funds (in millions):

	FY06	FY07	FY08	FY09	FY10	FY11
RIVET JOINT	0	32.065	26.958	26.465	24.475	25.860
COMBAT SENT	0	3.400	3.700	3.700	3.600	3.700
COBRA BALL	0	3.000	3.100	3.200	3.300	3.300

(U) **B. Accomplishments/Planned Program (\$ in Millions)**FY 2005FY 2006FY 2007

(U) (U) Initiates Non-Recurring Engineering (NRE) for the RC-135 SIGINT Systems
SEE Classified Budget Exhibits (PE 0305207F)

38.465

(U)

(U) Total Cost

0.000

0.000

38.465

Exhibit R-2a, RDT&E Project Justification

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07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5180 RC-135 (Airborne SIGINT
Development - RC-135)(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) (U) PE 0305207F, APAF			89.093	104.026	106.275	109.044	111.302	Continuing	TBD
(U) These funds within the PE 0305207F procure all necessary aircraft modifications for the RC-135 program and include those funds necessary to field SIGINT capabilities developed under Project 675180 of this Airborne SIGINT Enterprise.									

(U) **D. Acquisition Strategy**

(U) Aircraft, aircraft sensor systems, and associated ground support system modifications planned for FY06-FY11 include the procurement, fielding and logistical support for three distinct RIVET JOINT baseline configurations [baseline 8, 9, 10] and two distinct baselines [baselines 3 & 4] for COMBAT SENT and COBRA BALL. Development and integration managed by the Big Safari Systems Group; they employ evolutionary acquisition approaches to field incremental capability improvements.

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
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PROJECT NUMBER AND TITLE

5180 RC-135 (Airborne SIGINT
Development - RC-135)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
SIGINT Sensor Development and Integration	TBD	TBD		0.000		0.000		38.465	Jan-07	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.000		38.465		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	0.000		0.000		38.465		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5180 RC-135 (Airborne SIGINT
Development - RC-135)

U.S. AIR FORCE

RC-135

FY06	FY07	FY08	FY09	FY10	FY11
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RIVET JOINT

Mission Sensors/Hardware/software

COMBAT SENT

Mission Sensors/Hardware/software

COBRA BALL

Mission Sensors/Hardware/software

See PE 0305207 classified submission for breakout

As of: 10 Jan 06

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Exhibit R-4a, RDT&E Schedule Detail

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07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5180 RC-135 (Airborne SIGINT
Development - RC-135)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) Development of RIVET JOINT mission sensors

2-4Q

(U) Development of COMBAT SENT mission sensors

2-4Q

(U) Development of COBRA BALL mission sensors

2-4Q

Details are classified and are shown in the classified portion of PE 0305207F

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Exhibit R-2a, RDT&E Project Justification

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07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5181 U-2 (Airborne SIGINT
Development - U-2)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5181 U-2 (Airborne SIGINT Development - U-2)	0.000	1.972	0.000	0.000	0.000	0.000	0.000	1.972	1.972
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) The source for these funds was the redistribution of SIGINT funds moved into the ASE PE from other USAF SIGINT projects as explained in the R2.

(U) **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 ASIP sensor.

(U) This project provides risk reduction for the RQ-4 Global Hawk and will provide the warfighter with a near term combat capability with increased capability improvements accomplished as soon as technology and risk achieve satisfactory levels.

(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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Signals Intelligence (SIGINT) Sensor Integration on the U-2 aircraft		1.972	0.000
(U) Total Cost	0.000	1.972	0.000

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Airborne Signals Intelligence Program (ASIP) development in 0305202F	62.463								
(U) ASIP development for FY05 and before resides in the U-2 and Global Hawk PEs									

(U) **D. Acquisition Strategy**

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

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5181 U-2 (Airborne SIGINT
Development - U-2)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u> SIGINT Sensors Integration	CPAF	Lockheed Martin Aero, Palmdale Ca.		0.000		1.972	Jan-06	0.000			1.972	TBD
Subtotal Product Development			0.000	0.000		1.972		0.000		0.000	1.972	TBD
Remarks:												
(U) Total Cost			0.000	0.000		1.972		0.000		0.000	1.972	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

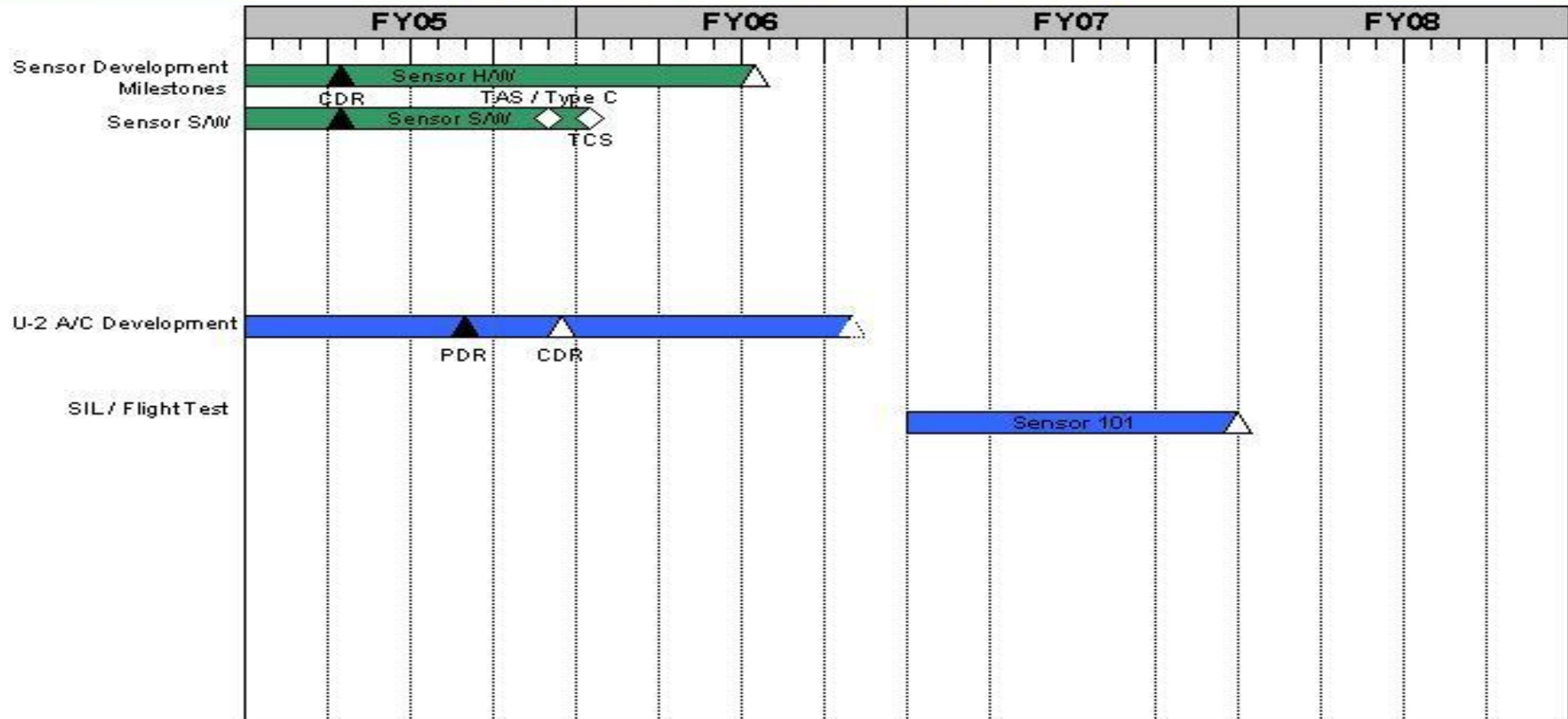
5181 U-2 (Airborne SIGINT
Development - U-2)

U.S. AIR FORCE

ASIP U2 Integration



Dominant Air Power: Design For Tomorrow...Deliver Today



As of: 10 Jan 06

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Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5181 U-2 (Airborne SIGINT
Development - U-2)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) U-2 flight test of baseline ASIP sensor (Common Dev)

1-4Q

(U) End-to-end flight test of ASIP sensor (Common Dev)

1-4Q

(U) Sensor integration efforts of capabilities developed under Project 675183 of this PE and of any
quick reaction capabilities that are developed for the U-2

1-4Q

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Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5182 MQ-1/MQ-9 (Airborne SIGINT
Development - Predator)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5182 MQ-1/MQ-9 (Airborne SIGINT Development - Predator)	0.000	0.000	2.475	2.588	2.703	2.919	3.016	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) The source for these funds was the redistribution of SIGINT funds moved into the ASE PE from other USAF SIGINT projects as explained in the R2.

(U) **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-1/9 SIGINT sensors and their associated air and ground components.

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

(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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Signals Intelligence (SIGINT) Sensor Development/Integration for MQ-1/9			2.475
(U) Total Cost	0.000	0.000	2.475

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) N/A									

(U) **D. Acquisition Strategy**

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

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5182 MQ-1/MQ-9 (Airborne SIGINT
Development - Predator)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
SIGINT Sensors Integration	TBD	TBD		0.000		0.000		2.475	Jan-07	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.000		2.475		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	0.000		0.000		2.475		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5182 MQ-1/MQ-9 (Airborne SIGINT
Development - Predator)

U.S. AIR FORCE

MQ-1/MQ-9 ASE Projects

FY06 FY07 FY08 FY09 FY10 FY11

Antenna, Receiver,
Processor, and Network
Development



Software Upgrades



Aircraft and
Ground Station
Integration



As of: 10 Jan 06

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Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5182 MQ-1/MQ-9 (Airborne SIGINT
Development - Predator)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) Initiate SIGINT development for the MQ-1/MQ-9

2-4Q

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BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0304260F Airborne SIGINT Enterprise (JMIP)			PROJECT NUMBER AND TITLE 5183 Common Development (Airborne SIGINT Development - Common Development)		
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5183 Common Development (Airborne SIGINT Development - Common Development)	0.000	70.481	53.896	63.347	82.277	86.572	86.993	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) The source for these funds was the redistribution of SIGINT funds moved into the ASE PE from other USAF SIGINT projects as explained in the R2.

(U) **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 sensors and their associated air and ground components that will be used on/by more than one platform. The common development SIGINT program develops new sensors and maintains present capability by developing replacements for current components affected by diminishing manufacturing sources as well as enhancing capability via spiral development to exploit evolving signals of interest to meet emerging operational requirements. The current sensor being developed is the Airborne Signals Intelligence Payload (ASIP) Program, to be tested by both the Global Hawk (RQ-4B) and U-2.

(U) This program 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 will deliver developmental units for integration and test to both the Global Hawk and U-2. The Global Hawk article is scheduled to complete integration and test for the developmental article and begin flight test in 1Q FY08. In accordance with an evolutionary acquisition strategy, ASIP will begin preliminary design activities to support spiral software and hardware upgrades beginning in FY08.

(U) This strategy 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 the 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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Signals Intelligence (SIGINT) Sensor Development/Integration		70.481	53.896
(U) Complete Baseline ASIP development. Begin ASIP upgrades to meet the evolving threat			
(U) Total Cost	0.000	70.481	53.896

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07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5183 Common Development
(Airborne SIGINT Development -
Common Development)(U) C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) RDT&E, 0305220F - ASIP Development	62.074								62.074
(U) RDT&E, 0305202F - ASIP Development	62.463								62.463
(U) APAF, 0305220F - ASIP Production BP10		0.000	0.000	15.000	53.300	55.800	45.600		169.700
(U) APAF, 0305220F - ASIP Production BP11				0.000	52.900	50.300	33.300	112.600	249.100

(U) D. Acquisition Strategy

Signals Intelligence (SIGINT) capabilities will be developed and integrated on to various platforms using an Evolutionary Acquisition approach.

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Exhibit R-3, RDT&E Project Cost Analysis

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5183 Common Development
(Airborne SIGINT Development -
Common Development)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u> SIGINT Sensor Development and Integration	CPAF	Northrop Grumman San Jose CA		0.000		70.481	Jan-06	53.896	Jan-07	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		70.481		53.896		Continuing	TBD	TBD
Remarks: Other contractors are listed above												
(U) Total Cost			0.000	0.000		70.481		53.896		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2006

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

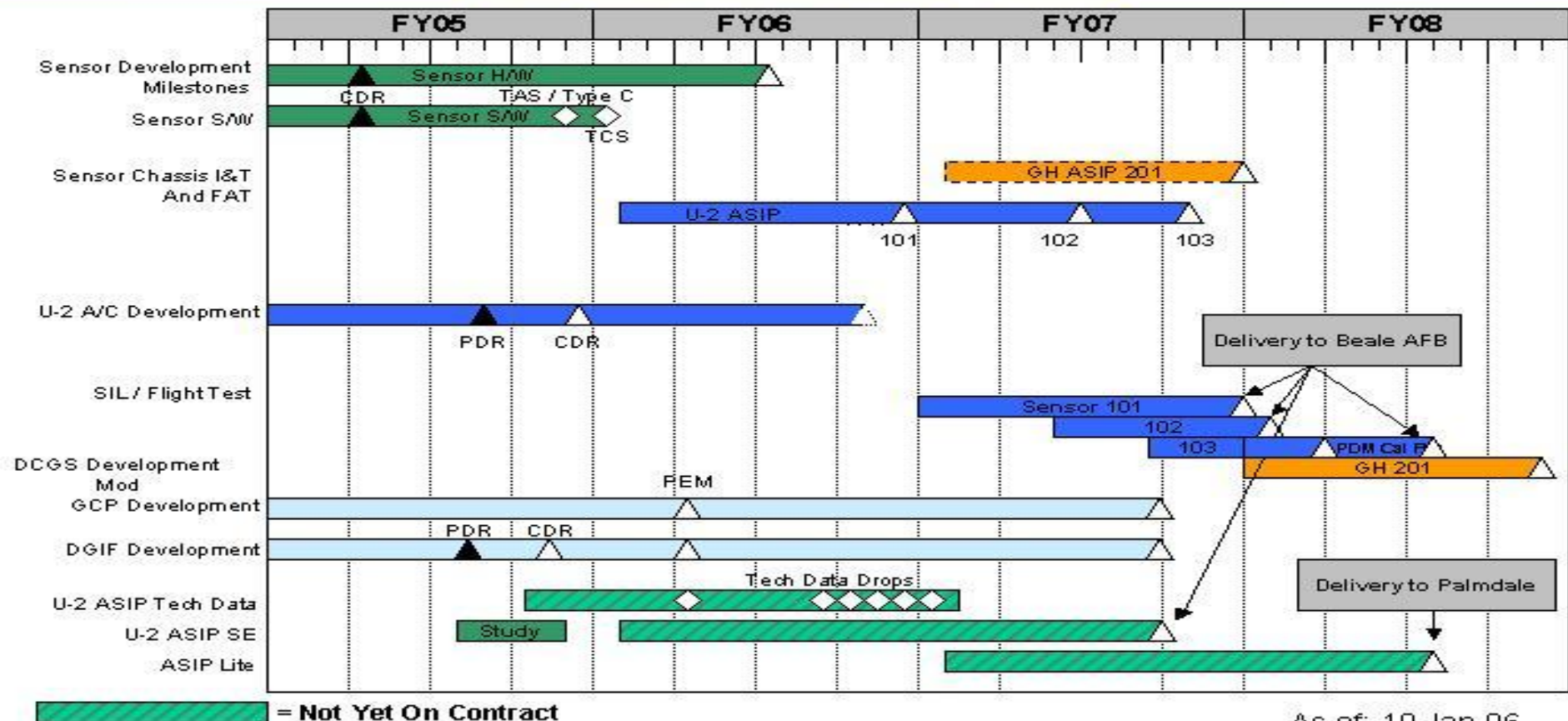
5183 Common Development
(Airborne SIGINT Development -
Common Development)

U.S. AIR FORCE

ASIP System of Systems RDT&E



Dominant Air Power: Design For Tomorrow...Deliver Today



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Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

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

PROJECT NUMBER AND TITLE

**5183 Common Development
(Airborne SIGINT Development -
Common Development)**(U) **Schedule Profile**FY 2005FY 2006FY 2007

(U) Sensor Development

1-4Q

1-4Q

1-4Q

(U) - Critical Design Review (CDR)

2Q

(U) - Raytheon - ASIP Preliminary Design Review (R-APDR)

2Q

(U) - Raytheon - ASIP Critical Design Review (R-ACDR)

3Q

(U) Global Hawk Factory Acceptance Test (FAT)

3Q

(U) U-2 FAT

4Q

(U) Distributed Common Ground Station (DCGS) ASIP Update

3Q

(U) U-2 Flight Test

1-4Q

(U) End-to-End Flight Test

1-4Q

(U) Note: FY04 and 05 efforts were accomplished in the Global Hawk 0305220F and U-2 0305202F PEs.

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BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0304260F Airborne SIGINT Enterprise (JMIP)			PROJECT NUMBER AND TITLE 5184 RQ-4 (Airborne SIGINT Development - Global Hawk)		
Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5184 RQ-4 (Airborne SIGINT Development - Global Hawk)	0.000	4.958	10.520	10.770	11.018	11.258	11.438	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) The source for these funds was the redistribution of SIGINT funds moved into the ASE PE from other USAF SIGINT projects as explained in the R2.

(U) **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.

(U) This project provides the warfighter with a near-term combat capability with increased capability improvements implemented as soon as technology and risk achieve satisfactory levels. The current sensor being developed for the Global Hawk SIGINT is ASIP. In concordance with an evolutionary acquisition strategy, ASIP will begin preliminary design activities to support spiral software and hardware upgrades beginning in FY08. These upgrades are designed to exploit evolving signals of interest to meet emerging operational requirements.

(U) Budget Activity Justification 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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Signals Intelligence (SIGINT) Sensor Integration on the Global Hawk aircraft		4.958	10.520
(U) Total Cost	0.000	4.958	10.520

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

	<u>FY 2005 Actual</u>	<u>FY 2006 Estimate</u>	<u>FY 2007 Estimate</u>	<u>FY 2008 Estimate</u>	<u>FY 2009 Estimate</u>	<u>FY 2010 Estimate</u>	<u>FY 2011 Estimate</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
(U) Sensor Integration 0305205/030220F - Sensor Development	62.074								
(U) ASIP development for FY05 and before resides in the U-2 and Global Hawk PEs									

(U) **D. Acquisition Strategy**

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

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5184 RQ-4 (Airborne SIGINT
Development - Global Hawk)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u> SIGINT Sensor Integration	CPAF	Northrop Grumman Mission Sys, San Jose, CA		0.000		4.958	Jan-06	10.520	Jan-07	21.905	37.383	TBD
Subtotal Product Development			0.000	0.000		4.958		10.520		21.905	37.383	TBD
Remarks:												
(U) Total Cost			0.000	0.000		4.958		10.520		21.905	37.383	TBD

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

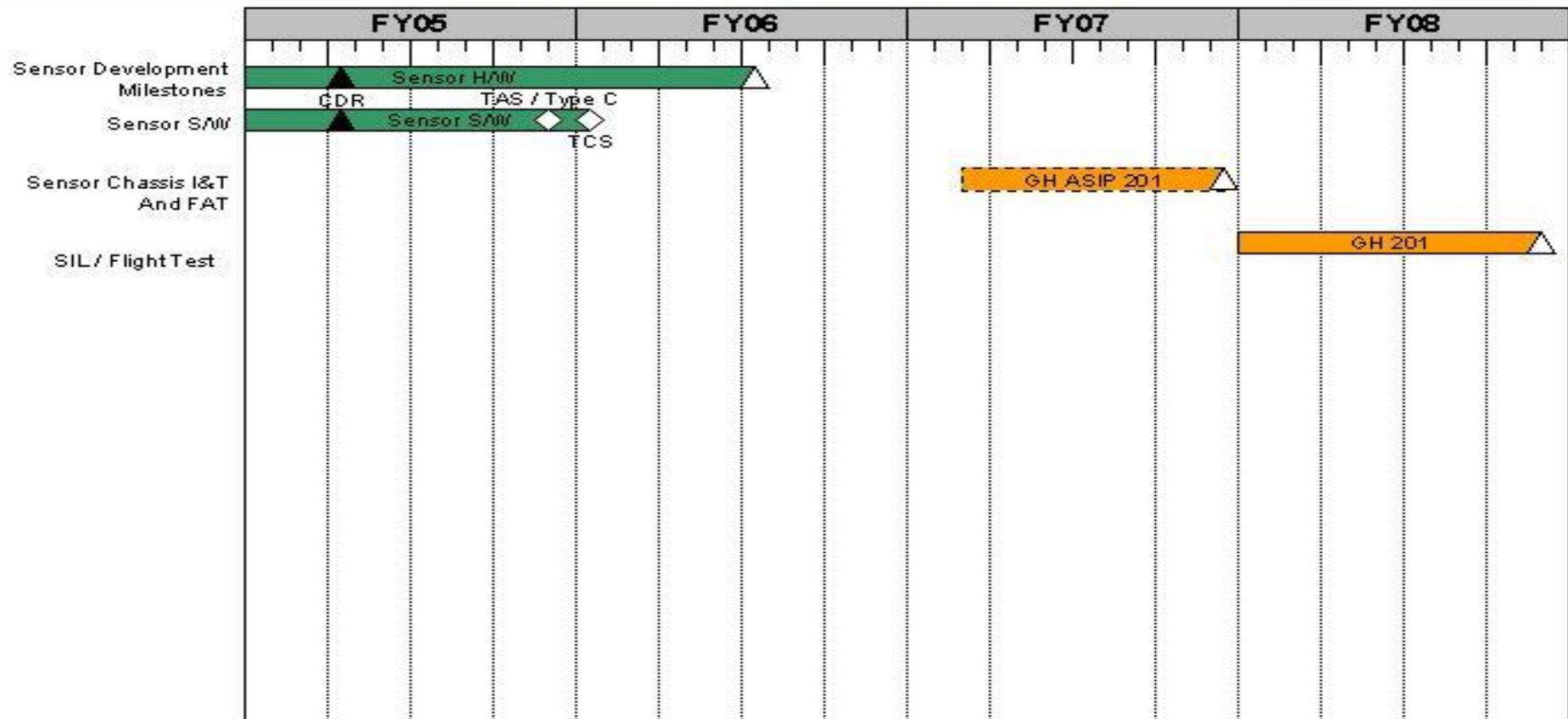
5184 RQ-4 (Airborne SIGINT
Development - Global Hawk)

U.S. AIR FORCE

ASIP GH Integration



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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5184 RQ-4 (Airborne SIGINT
Development - Global Hawk)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) End-to-end flight test of ASIP sensor

1-4Q

(U) Sensor integration efforts of capabilities developed under Project 675183 of this PE and any
quick reaction capabilities developed for the RQ-4

1-4Q

(U) Sensor Development

1-3Q

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Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5185 Compass Bright (Airborne
SIGINT Development - Compass
Bright)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5185 Compass Bright (Airborne SIGINT Development - Compass Bright)	0.000	0.387	8.250	8.492	8.730	8.964	9.151	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) All funds in Compass Bright are 3600 RDT&E. The source for these funds was the redistribution of SIGINT funds moved into the ASE PE from other USAF SIGINT projects as explained in the R2.

(U) **A. Mission Description and Budget Item Justification**

(U) The COMPASS BRIGHT program develops, demonstrates, and rapidly transitions advanced Air Force-specific signals intelligence (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. Funds were reduced in FY06 from previous submissions due to higher USAF priorities.

(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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue COMPASS BRIGHT development projects in the signals intelligence (SIGINT) and radio frequency (RF) measurement and signature intelligence (MASINT) areas			7.286
(U) Mission Support, Program Management Activities		0.387	0.964
(U) Total Cost	0.000	0.387	8.250

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) RDT&E, PE 0305206F, BPAC 674882 - Compass Bright Development Compass Bright Funds for FY06 and out were moved from the above PE to the ASE PE	2.105								2.105

Project 5185

R-1 Shopping List - Item No. 177-25 of 177-33

Exhibit R-2a (PE 0304260F)

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Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5185 Compass Bright (Airborne
SIGINT Development - Compass
Bright)(U) 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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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5185 Compass Bright (Airborne
SIGINT Development - Compass
Bright)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
Various	Various	AFRL				0.000	Jan-06	7.286	Jan-07	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.000		7.286		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
ASC/RSW		WPAFB, OH		0.000		0.387		0.964		Continuing	TBD	TBD
Subtotal Management			0.000	0.000		0.387		0.964		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	0.000		0.387		8.250		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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February 2006

BUDGET ACTIVITY

07 Operational System Development

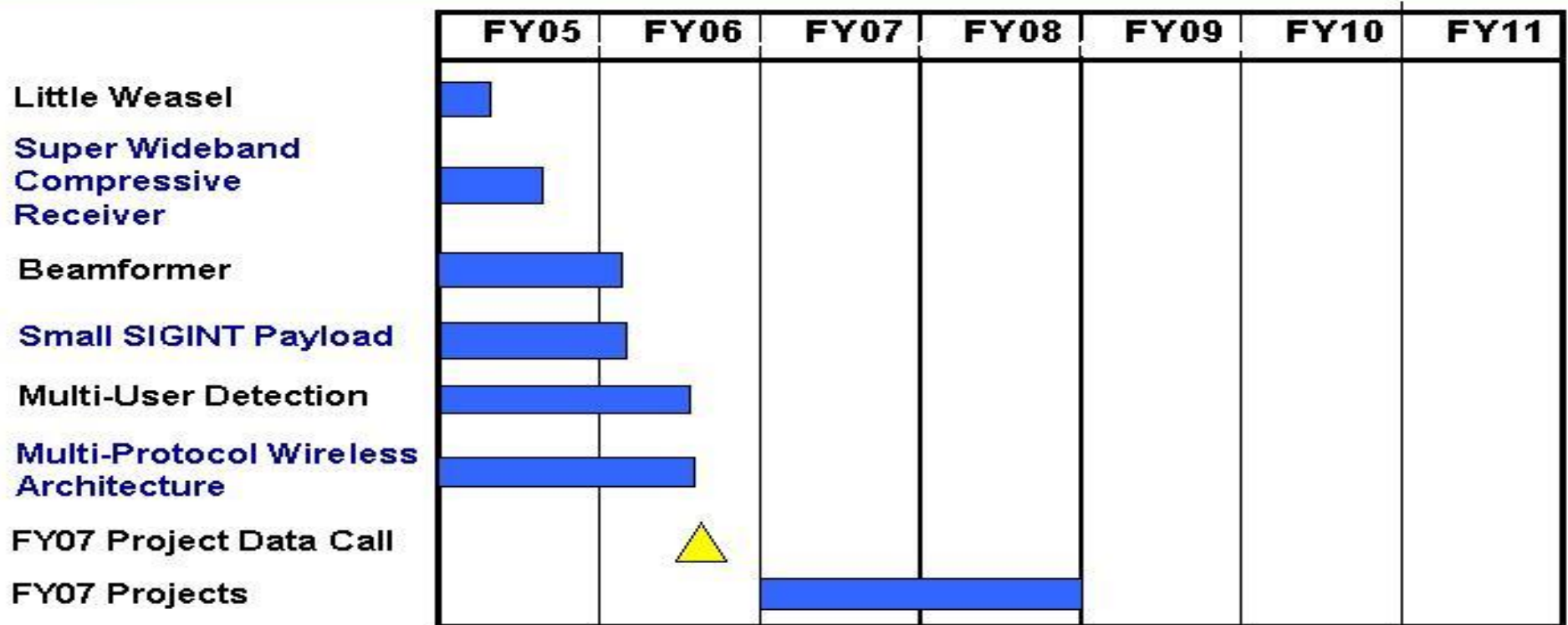
PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5185 Compass Bright (Airborne
SIGINT Development - Compass
Bright)

COMPASS BRIGHT Project Schedules



Note1: COMPASS BRIGHT Projects are 1-2 years in duration, thus no outyear projects are shown

Note 2: Efforts previous to FY 06 were funded from PE 0305206F, Project 4882

1

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Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

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

PROJECT NUMBER AND TITLE

**5185 Compass Bright (Airborne
SIGINT Development - Compass
Bright)**(U) **Schedule Profile**FY 2005FY 2006FY 2007

(U) Little Weasel

2Q

(U) Super Wideband

3Q

(U) Beamformer

1Q

(U) SSP Demo

1Q

(U) Multi-User Detection Demo

3Q

(U) Multi-Protocol Wireless Architecture Demo

3Q

(U) FY07 Proposal Call

3Q

(U) FY07 Proposals Evaluated and Approved

4Q

(U) FY07 Proposals Authorized to Proceed

1Q

(U) FY08 Proposal Call

3Q

(U) FY08 Proposals Evaluated and Approved

4Q

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Exhibit R-2a, RDT&E Project Justification

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise (JMIP)

PROJECT NUMBER AND TITLE

5186 Special Programs (Airborne SIGINT Development - Special Platforms)

Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5186 Special Programs (Airborne SIGINT Development - Special Platforms)	0.000	0.000	4.228	4.349	4.470	4.691	4.888	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **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 and other classified platforms. 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.

(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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Signals Intelligence (SIGINT) Sensor Integration			4.228
(U) Total Cost	0.000	0.000	4.228

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

	<u>FY 2005</u> <u>Actual</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) None									

(U) **D. Acquisition Strategy**

(U) Signals Intelligence (SIGINT) capabilities will be integrated on to various classified platforms using an Evolutionary Acquisition approach.

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5186 Special Programs (Airborne
SIGINT Development - Special
Platforms)

(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target Value</u> <u>of Contract</u>
(U) <u>Product Development</u>												
SIGINT Sensor Integration	Various	Various		0.000		0.000		4.228	Jan-07	Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.000		4.228		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	0.000		0.000		4.228		Continuing	TBD	TBD

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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5186 Special Programs (Airborne
SIGINT Development - Special
Platforms)

U.S. AIR FORCE

Special Projects

FY06 FY07 FY08 FY09 FY10 FY11

Hardware/Software
Improvements



Accuracy
Improvements



Network Ops



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BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0304260F Airborne SIGINT Enterprise
(JMIP)

PROJECT NUMBER AND TITLE

5186 Special Programs (Airborne
SIGINT Development - Special
Platforms)(U) Schedule ProfileFY 2005FY 2006FY 2007

(U) Sensor Development on Senior Scout

2-4Q