

UNCLASSIFIED

PE NUMBER: 0304260F

PE TITLE: Airborne SIGINT Enterprise (JMIP)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0304260F Airborne SIGINT Enterprise (JMIP)
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	119.646	135.162	173.631	169.364	157.415	151.286	154.367	Continuing	TBD
5180 RC-135 (Airborne SIGINT Development - RC-135)	37.730	49.061	49.091	46.631	31.741	29.539	34.320	Continuing	TBD
5182 MQ-1/MQ-9 (Airborne SIGINT Development - Predator)	2.428	8.031	2.717	2.935	3.028	3.086	3.150	Continuing	TBD
5183 Common Development (Airborne SIGINT Development - Common Development)	57.704	47.349	65.618	69.430	78.932	85.052	90.290	Continuing	TBD
5184 RQ-4 (Airborne SIGINT Development - Global Hawk)	10.480	10.817	41.917	34.598	20.495	11.708	11.944	Continuing	TBD
5185 Compass Bright (Airborne SIGINT Development - Compass Bright)	7.092	8.529	8.774	9.014	9.187	9.366	9.558	Continuing	TBD
5186 Special Programs (Airborne SIGINT Development - Special Platforms)	4.212	11.375	5.514	6.756	14.032	12.535	5.105	Continuing	TBD

(U) 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, 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) 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.

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

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	117.390	139.627	143.982
(U) Current PBR/President's Budget	119.646	135.162	173.631
(U) Total Adjustments	2.256		
(U) Congressional Program Reductions		-10.000	
Congressional Rescissions		-0.865	
Congressional Increases		6.400	
Reprogrammings	2.256		
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

(U) In FY07, Internal AF reprogramming actions added a total of \$2.256M to the ASE PE. The additional funds were used in the Airborne Signals Intelligence Payload (ASIP) development. In FY08, SIGINT development projects will continue work in the ASIP Program (to include integration and flight test on the U-2 and RQ-4). A total of \$15.3M was added to increase and accelerate MQ-1 SIGINT efforts. Congress reduced this amount by \$10.0M. Congress also added \$6.4M to the Special Projects project line for SENIOR SCOUT beyond line-of-sight datalink work. In FY09 funding was transferred from the Global Hawk PE to the ASE PE by OSD to accomplish ASIP-related tasks including completion of developmental logistics tasks associated with the design, development, and integration of ASIP. Additional requirements include Logistics Support Analysis (LSA) tasks, designing and developing support equipment, technical orders, training courses/aids/devices, and specialized shipping containers.

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 5180 RC-135 (Airborne SIGINT Development - RC-135)		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5180 RC-135 (Airborne SIGINT Development - RC-135)	37.730	49.061	49.091	46.631	31.741	29.539	34.320	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. Funding increased in FY08-FY10 over previous submissions to reflect the SIGINT Capabilities Working Group (SCWG) priorities and the accomplishment of other ASE initiatives.

(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):

	FY07	FY08	FY09	FY10	FY11	FY12	FY13
RIVET JOINT	31.330	42.261	42.191	39.731	24.741	22.339	27.120
COMBAT SENT	3.400	3.700	3.700	3.600	3.700	3.800	3.800
COBRA BALL	3.000	3.100	3.200	3.300	3.300	3.400	3.400

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

(U) (U) Initiates Non-Recurring Engineering (NRE) for the RC-135 SIGINT Systems SEE Classified Budget Exhibits (PE 0305207F)	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
	37.730	49.061	49.091
(U) Total Cost	37.730	49.061	49.091

Exhibit R-2a, RDT&E Project Justification

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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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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	104.200	105.300	106.900	109.800	112.100	174.900	178.400	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 FY08-FY13 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 (JMIP)	PROJECT NUMBER AND TITLE 5180 RC-135 (Airborne SIGINT Development - RC-135)
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<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>(U) Product Development</u> SIGINT Sensor Development and Integration	CPFF and FFP	L-3 COM Greenville, TX		37.730	Jan-07	49.061	Jan-08	49.091	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			0.000	37.730		49.061		49.091		Continuing	TBD	TBD
Remarks:												
<u>(U) Total Cost</u>			0.000	37.730		49.061		49.091		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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0304260F Airborne SIGINT Enterprise (JMIP)

PROJECT NUMBER AND TITLE
5180 RC-135 (Airborne SIGINT Development - RC-135)



ASE
RC-135 Development
RIVET JOINT, COMBAT SENT, COBRA BALL

RIVET JOINT

Steerable Beam Antenna

Aperture Tiles

HF Capabilities

Demodulator

Compressive Receiver

Ultra Wideband

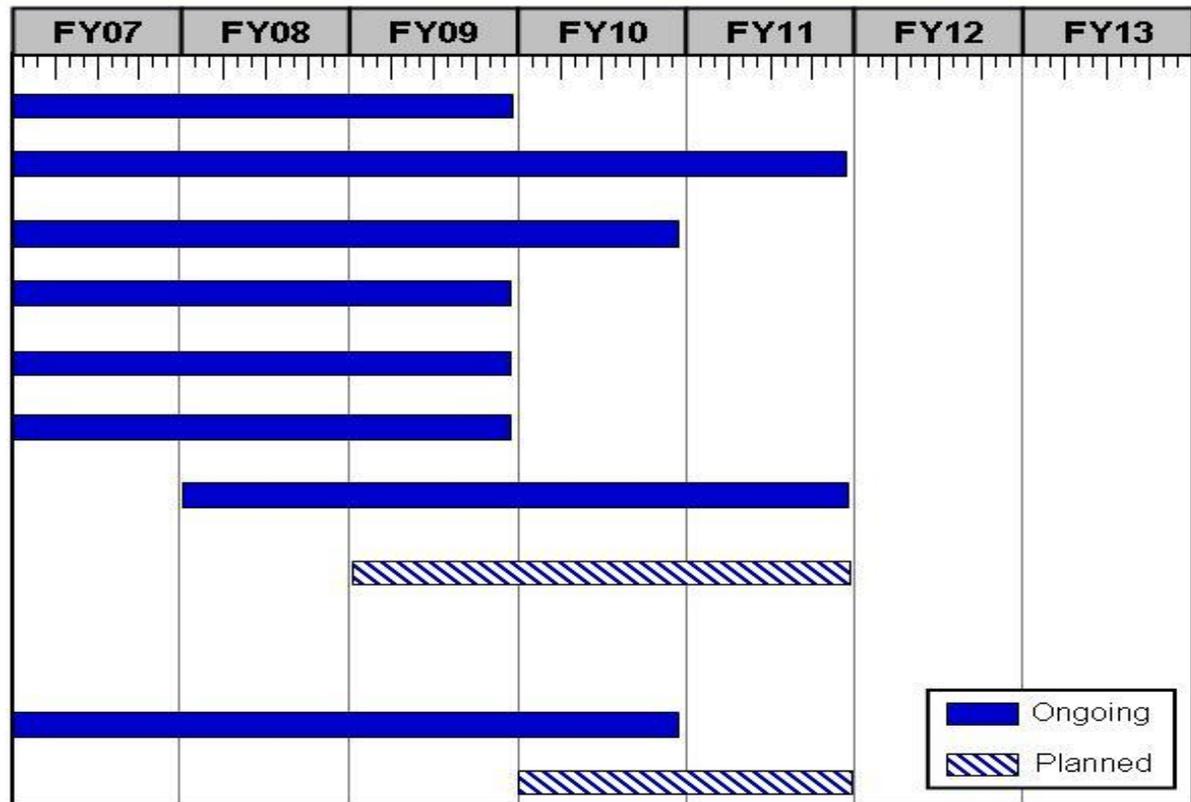
Interferometry

Bistatic Radar work

**COMBAT SENT/
COBRA BALL**

CB/CS Low Band

CS Antenna Improvements



Legend:
 Ongoing
 Planned

FY08 Staffer Brief

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Exhibit R-4a, RDT&E Schedule Detail

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07 Operational System Development

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PROJECT NUMBER AND TITLE

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

(U) Schedule Profile

(U) Development of RIVET JOINT mission sensors

(U) Development of COMBAT SENT mission sensors

(U) Development of COBRA BALL mission sensors

FY 2007

1-4Q

1-4Q

1-4Q

FY 2008

1-4Q

1-4Q

1-4Q

FY 2009

1-4Q

1-4Q

1-4Q

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

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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5182 MQ-1/MQ-9 (Airborne SIGINT Development - Predator)	2.428	8.031	2.717	2.935	3.028	3.086	3.150	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) MQ-1/9 SIGINT development efforts in the ASE PE began in FY07.

(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/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 sensor 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. FY 08 funding was added to this activity to increased and accelerate a SIGINT capability on this platform.

(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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Signals Intelligence (SIGINT) Sensor Development/Integration for MQ-1/9	2.428	8.031	2.717
(U) Total Cost	2.428	8.031	2.717

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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) 0305219F MQ-1 RDT&E (GWOT)	15.000								15.000
(U) 0305219F MQ-1 APAF (BP11)			26.690	29.630	32.000				88.320

Exhibit R-2a, RDT&E Project Justification

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(JMIP)

PROJECT NUMBER AND TITLE

5182 MQ-1/MQ-9 (Airborne SIGINT
Development - Predator)(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				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
07 Operational System Development				0304260F Airborne SIGINT Enterprise (JMIP)				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 Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
SIGINT Sensors Integration	CPFF	General Atomics, San Diego, CA				1.300	Apr-08	2.717	Jan-09	Continuing	TBD	TBD
SIGINT Sensors Development	CPIF	Northrop Grumman ESL, San Jose, CA		2.428	Dec-07	4.964	Jan-08			Continuing	TBD	TBD
Management, Various Integration Efforts, & Flight Test	Various	Various				1.767	Jan-08			Continuing	TBD	TBD
Subtotal Product Development			0.000	2.428		8.031		2.717		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			0.000	2.428		8.031		2.717		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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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)

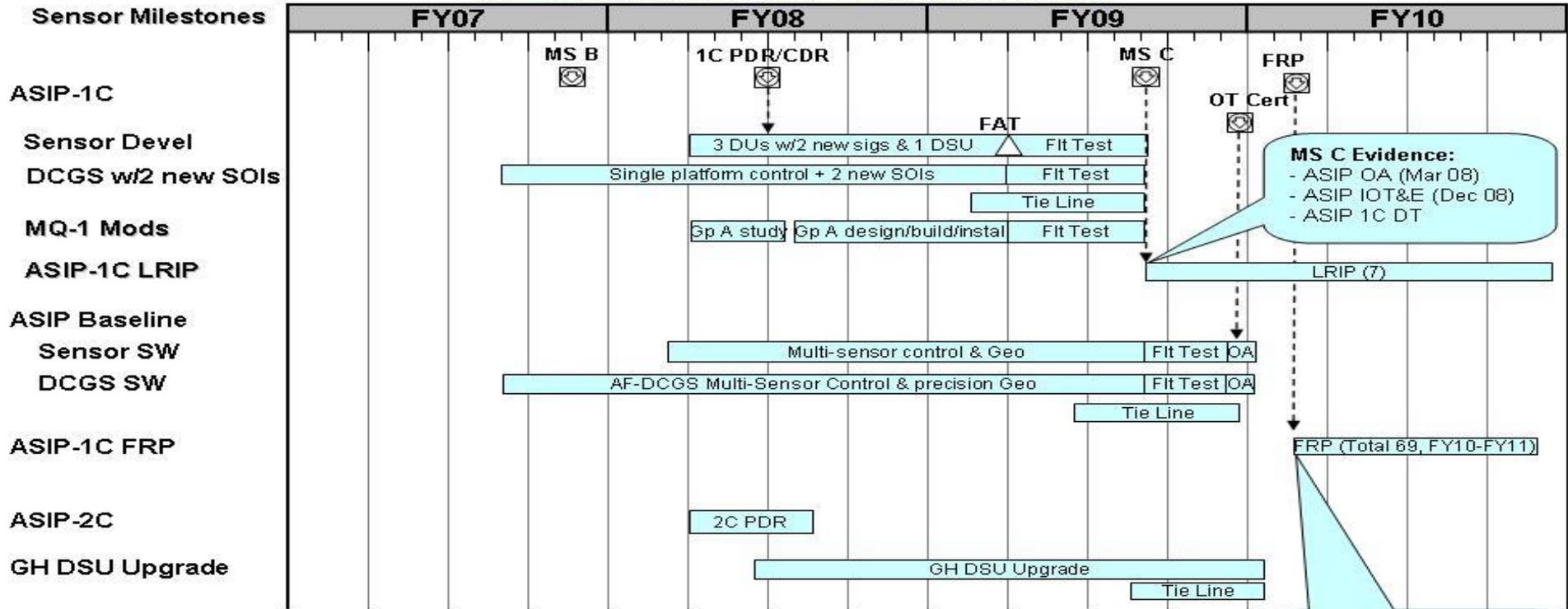


U.S. AIR FORCE

ASIP-1C/2C Schedule



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



MS C Evidence:
 - ASIP OA (Mar 08)
 - ASIP IOT&E (Dec 08)
 - ASIP 1C DT

FRP DR Evidence:
 - ASIP Sensor IOT&E (Dec 08)
 - ASIP Ops performance
 - ASIP 1C DT/OT (OA)

As of: 20 Dec 07

Final Schedule Depends on Platform Contractor's Ability to Support

Exhibit R-4a, RDT&E Schedule Detail

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PROJECT NUMBER AND TITLE

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

(U) Schedule Profile

FY 2007

FY 2008

FY 2009

(U) ASIP 1C Development & FT

1-4Q

1-4Q

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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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5183 Common Development (Airborne SIGINT Development - Common Development)	57.704	47.349	65.618	69.430	78.932	85.052	90.290	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) This projects supports the development of the Airborne Signals Intelligence payload (ASIP) sensor 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 and modeling and simulation.

(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 incremental development to exploit evolving signals of interest to meet emerging operational requirements. The current sensors being developed are the Airborne Signals Intelligence Payload (to be tested on both the Global Hawk (RQ-4B) and U-2) and the ASIP 1C/2C (to be tested on the MQ-1 and MQ-9). The systems' open architecture and Joint Airborne SIGINT Architecture (JASA) compliant design supports streamlined integration of ASIP onto additional ISR platforms.

(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 on both the RQ-4 and U-2. ASIP 1C/2C will deliver developmental units for integration and test on the MQ-1 and a preliminary design for the MQ-9. (Additional funding is required to complete the 2C design for the MQ-9.) U-2 test articles completed integration and test in 4Q FY06 and began flight test in 1Q FY07. The Global Hawk article is scheduled to complete integration and test for the developmental article and begin flight test in 2Q FY08. In accordance with an evolutionary acquisition strategy, ASIP will begin preliminary design activities to support incremental 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.

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(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) ASIP Baseline development/integration	56.354	44.949	0.200
(U) ASIP Upgrades		0.200	23.198
(U) ASIP 1C/2C development/integration			39.820
(U) Various SIGINT Architecture Efforts	1.350	2.200	2.400
(U) Total Cost	57.704	47.349	65.618

(U) C. Other Program Funding Summary (\$ in Millions)	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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) Sensor Integration 0305220F- Sensor Development BP10 APAF			54.000	53.600	59.700	83.500	135.900		386.700
(U) Sensor Integration 0305220F- Sensor Development BP11 APAF		18.000	88.300	109.600	109.400	59.300	5.100	3.470	393.170
(U) 0305219F MQ-1 RDT&E (GWOT)	15.000								15.000
(U) 0305219F MQ-1 APAF (BP11)			26.690	29.630	32.000				88.320

(U) **D. Acquisition Strategy**
 Signals Intelligence (SIGINT) capabilities will be developed and integrated onto various platforms using an Evolutionary Acquisition approach.

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Exhibit R-3, RDT&E Project Cost Analysis

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<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
<u>(U) Product Development</u>												
(U) SIGINT Sensor Development & Integration	CPAF	Northrop Grumman, San Jose, CA	56.202	32.961	Oct-06	30.096	Jan-08	52.503	Jan-09	Continuing	TBD	TBD
(U) ASIP U-2	CPIF	Lockheed Martin Aeronautics, Palmdale, CA	9.710	7.483	Oct-06	1.111	Oct-07			Continuing	TBD	TBD
(U) ASIP U-2	CPIF	L-3 Comm, Salt Lake City, UT	0.209	0.743	Dec-06	0.144	Mar-08			0.000	1.096	TBD
(U) AFDCGS Integration	CPIF	Lockheed Martin Astronautics, Denver, CO	3.980	4.350	Oct-06	1.200	Nov-07			Continuing	TBD	TBD
(U) U2 ASIP Integration & AFDCGS Integration	CPIF	Raytheon, Falls Church, VA	7.005	6.137	Oct-06	3.020	Nov-07			Continuing	TBD	TBD
(U) Various SIGINT Architecture Efforts	Various	Various	0.250	1.350	Nov-06	2.200	Jan-08	2.400	Jan-09	Continuing	TBD	TBD
(U) Management, Various Integration Efforts, and Flight Test	Various	Various	3.079	4.680	Nov-06	9.578	Jan-08	10.715	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			80.435	57.704		47.349		65.618		Continuing	TBD	TBD
Remarks:	Above costs for U-2 and AFDCGS are for the baseline ASIP. Upgrade costs for ASIP specific contracts are TBD.											
(U) Total Cost			80.435	57.704		47.349		65.618		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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PE NUMBER AND TITLE
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PROJECT NUMBER AND TITLE
5183 Common Development (Airborne SIGINT Development - Common Development)

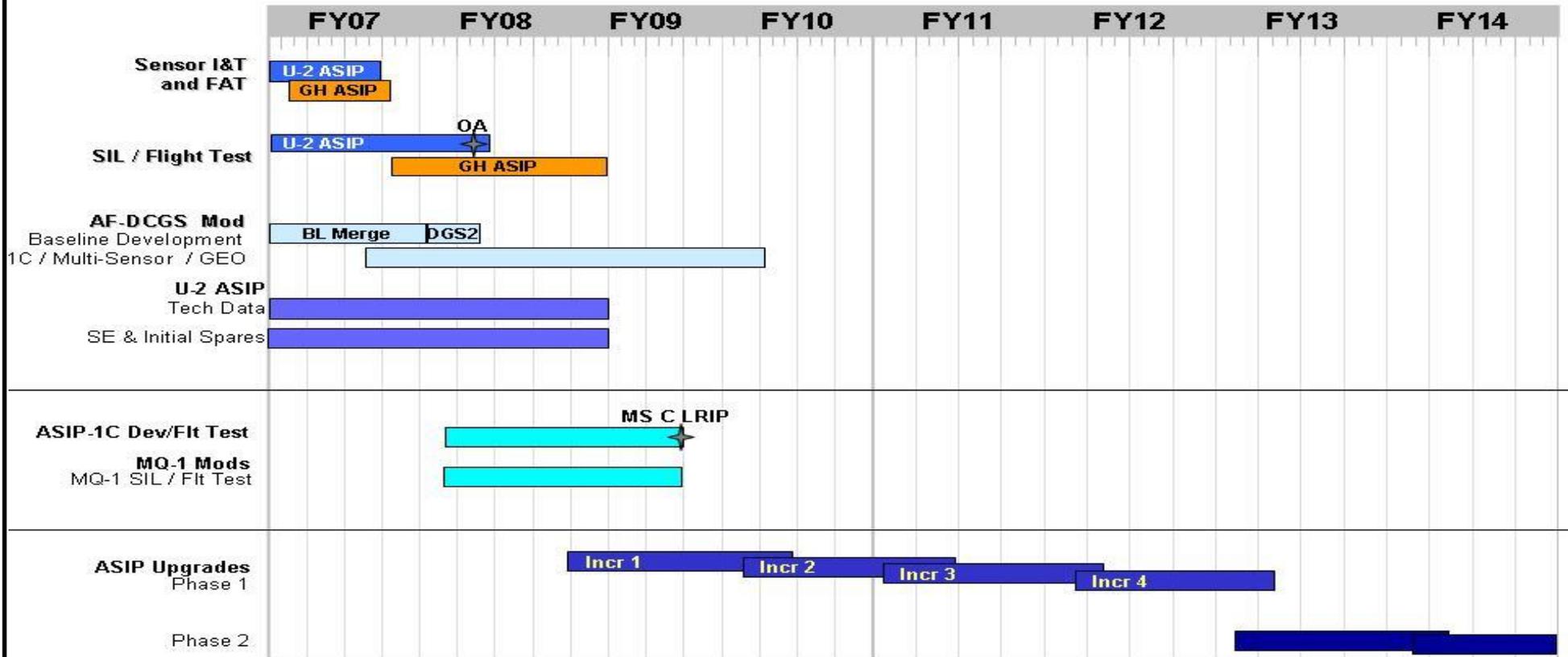


U.S. AIR FORCE

ASIP System of Systems RDT&E



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



As of: 20 Dec 07

Exhibit R-4a, RDT&E Schedule Detail

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(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) ASIP Sensor I&T and Factory Acceptance Test (FAT)	1-3Q		
(U) ASIP U-2 System Integration Lab (SIL) & Flight Test (FT)	1-4Q	1-2Q	
(U) ASIP GH SIL & FT	4Q	1-4Q	1Q
(U) AF DCGS Development- ASIP U-2	1-4Q	1-2Q	
(U) AF DCGS Development- ASIP 1C (Multi-Sensor & GEO)	3-4Q	1-4Q	1-4Q
(U) ASIP U-2 Tech Data	1-4Q	1-4Q	1Q
(U) ASIP U-2 Support Equipment & Initial Spares	1-4Q	1-4Q	1Q
(U) ASIP 1C Development & FT		1-4Q	1-4Q
(U) ASIP UPGRADES		4Q	1-4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2008

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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5184 RQ-4 (Airborne SIGINT Development - Global Hawk)	10.480	10.817	41.917	34.598	20.495	11.708	11.944	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) This project covers RQ-4 SIGINT development integration in the ASE PE.

(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 capability is the Airborne Signals Intelligence Payload (ASIP). In accordance 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) Funding includes completion of developmental logistics tasks associated with the design, development, and integration of ASIP. Additional requirements include Logistics Support Analysis (LSA) tasks, designing and developing support equipment, technical orders, training courses/aids/devices, and specialized shipping containers.

(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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Signals Intelligence (SIGINT) Sensor Integration on the Global Hawk aircraft	10.480	10.817	41.917
(U) Total Cost	10.480	10.817	41.917

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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) Sensor Integration 0305220F-Sensor Development BP10 APAF			54.000	53.600	59.700	83.500	135.900		386.700
(U) Sensor Integration 0305220F-Sensor Development BP11 APAF		18.000	88.300	109.600	109.400	59.300	5.100	3.470	393.170

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Project 5184

Exhibit R-2a (PE 0304260F)

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

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

DATE

February 2008

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)
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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> SIGINT Sensor Integration	CPAF	Northrop Grumman Mission Sys, San Jose, CA	4.957	10.480	Oct-06	10.817	Jan-08	41.917	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			4.957	10.480		10.817		41.917		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			4.957	10.480		10.817		41.917		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

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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)



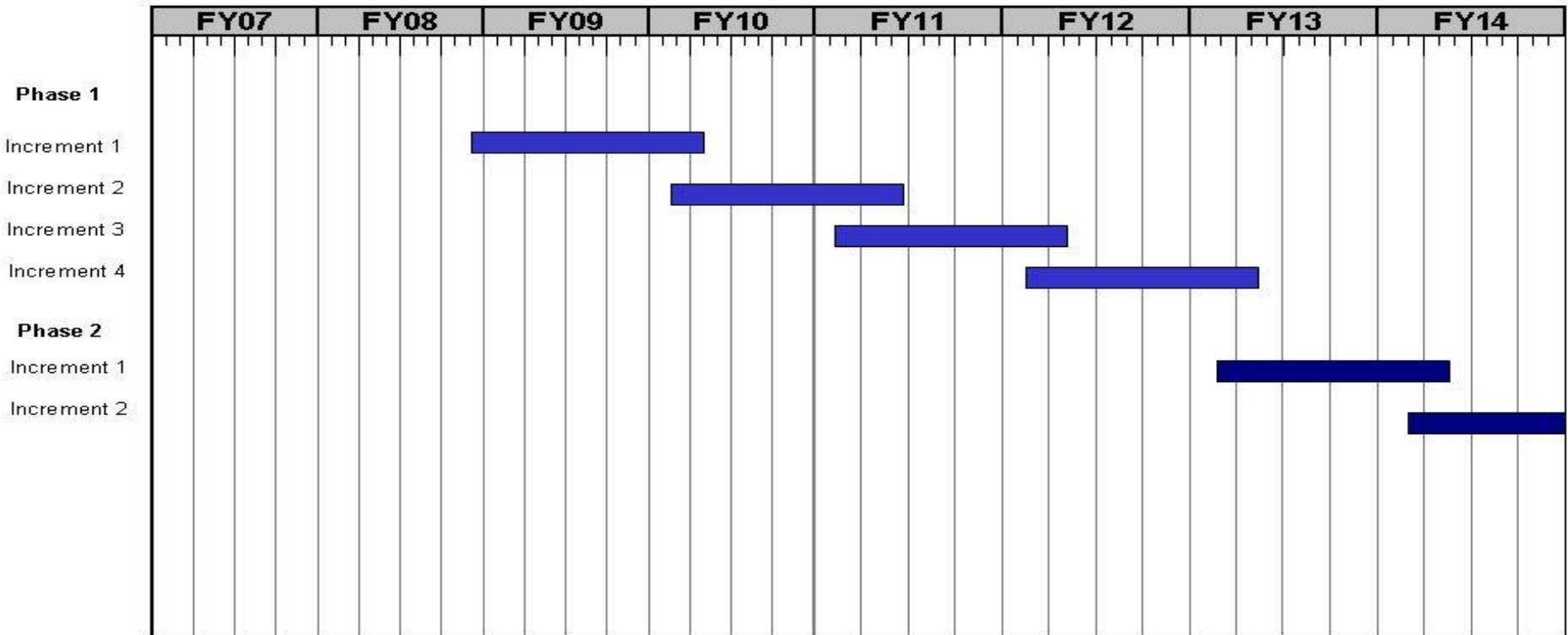
U.S. AIR FORCE

ASIP UPGRADES

In ASE PE



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



As of: 19 Dec 07

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2008

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)

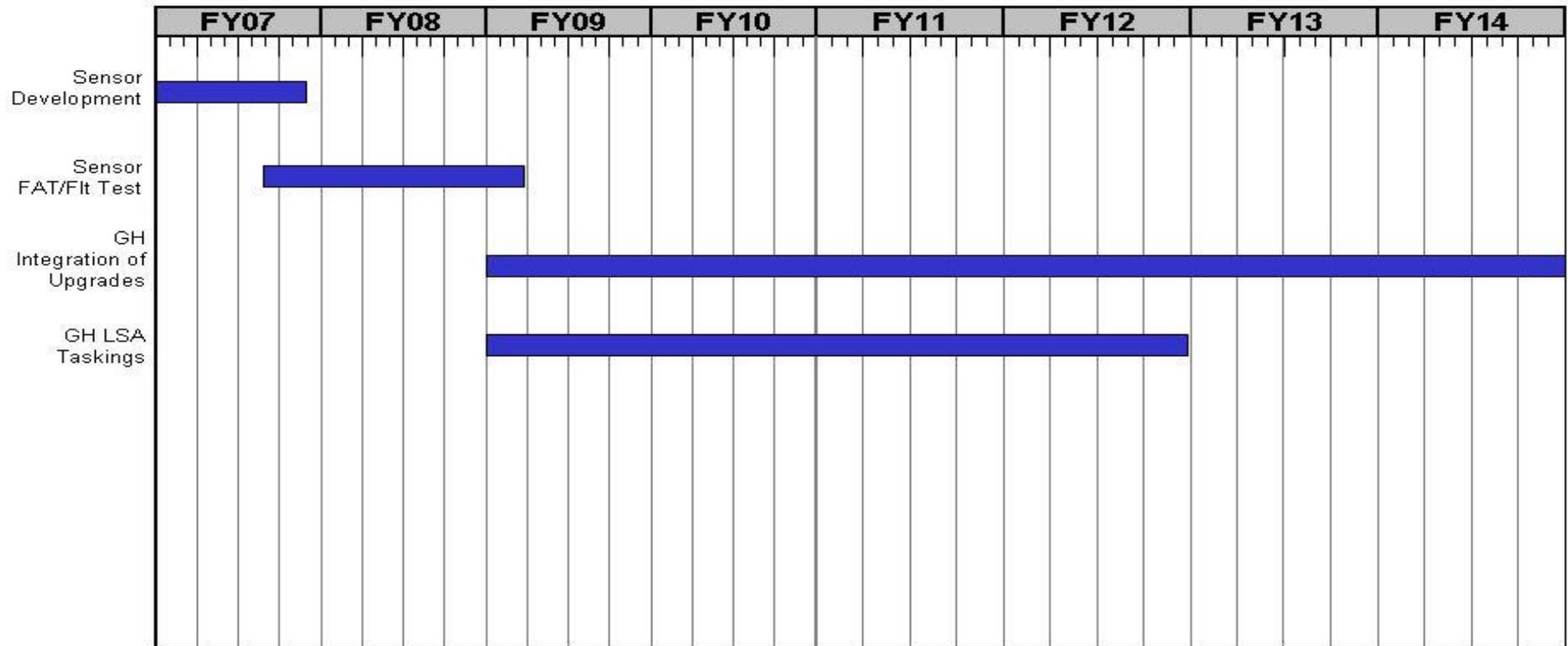


U.S. AIR FORCE

GH ASIP Baseline RDT&E



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



As of: 20 Dec 07

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2008

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>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) GH Sensor Development	1-4Q		
(U) GH Sensor Factory Acceptance Test & Flight Test	3-4Q	1-4Q	1Q
(U) GH SIGINT Upgrades			1-4Q
(U) GH Logistics Support Analysis Tasking			1-4Q

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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5185 Compass Bright (Airborne SIGINT Development - Compass Bright)	7.092	8.529	8.774	9.014	9.187	9.366	9.558	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) 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.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue COMPASS BRIGHT development projects in the signals intelligence (SIGINT) and radio frequency (RF) measurement and signature intelligence (MASINT) areas	6.250	7.680	7.901
(U) Mission Support, Program Management Activities	0.842	0.849	0.873
(U) Total Cost	7.092	8.529	8.774

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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) N/A									

(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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Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT NUMBER AND TITLE			
07 Operational System Development				0304260F Airborne SIGINT Enterprise (JMIP)						5185 Compass Bright (Airborne SIGINT Development - Compass Bright)			
<u>(U) Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>	
(U) <u>Product Development</u>													
Various	Various	AFRL		6.250	Jan-07	7.680	Jan-08	7.901	Jan-09	Continuing	TBD	TBD	
Subtotal Product Development			0.000	6.250		7.680		7.901		Continuing	TBD	TBD	
Remarks:													
(U) <u>Management</u>													
ASC/303 AESW (Aeronautical Systems Wing)		WPAFB, OH		0.842		0.849		0.873		Continuing	TBD	TBD	
Subtotal Management			0.000	0.842		0.849		0.873		Continuing	TBD	TBD	
Remarks:													
(U) Total Cost			0.000	7.092		8.529		8.774		Continuing	TBD	TBD	

Exhibit R-4, RDT&E Schedule Profile

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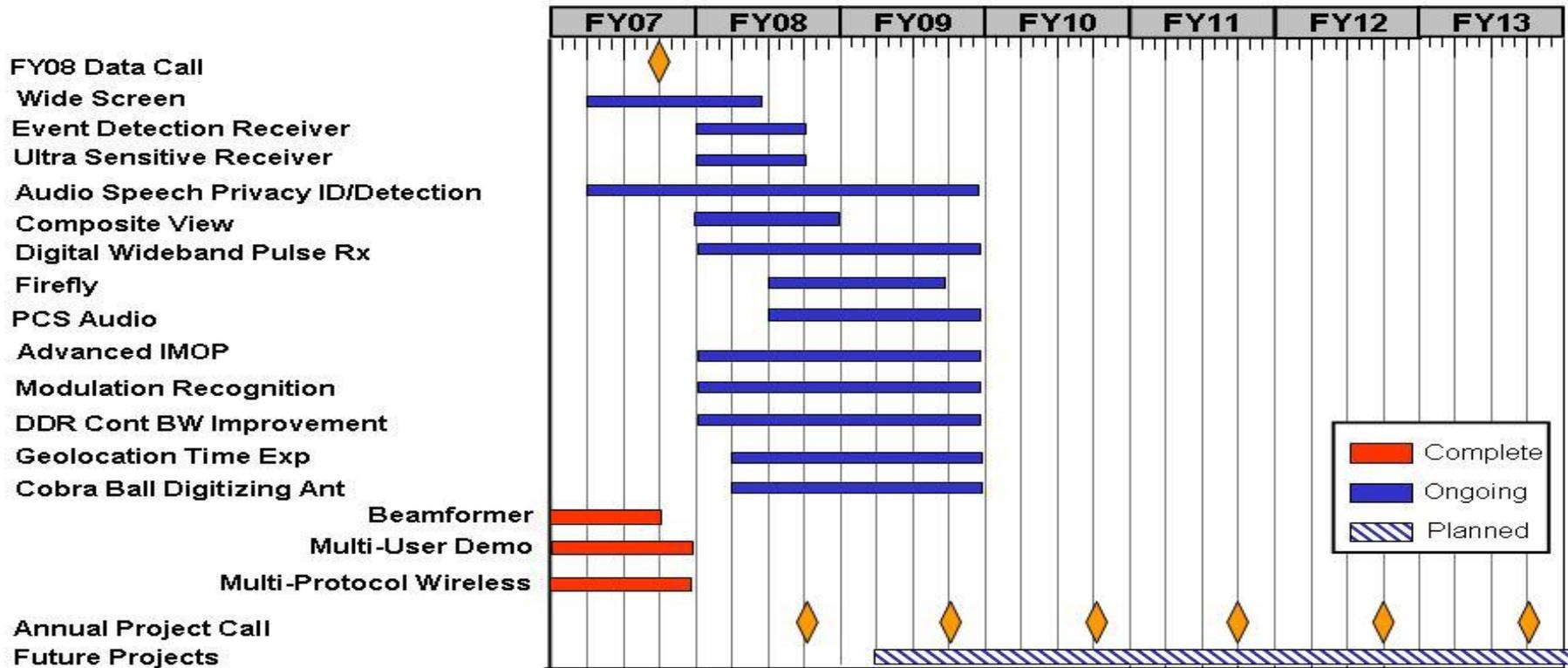
BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0304260F Airborne SIGINT Enterprise (JMIP)

PROJECT NUMBER AND TITLE
5185 Compass Bright (Airborne SIGINT Development - Compass Bright)



ASE Compass Bright Schedule



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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
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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)
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	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) FY08 Proposal Call	3Q		
(U) Wide Screen	2-4Q	1-2Q	
(U) Event Detection Receiver		1-3Q	
(U) Ultra Sensitive Receiver		1-3Q	
(U) Audio Speech privacy ID and Detection (ASPID)	2-4Q	1-4Q	1-4Q
(U) Composite View		1-4Q	
(U) Digital Wideband Pulse Receiver		1-4Q	1-4Q
(U) FireFly		3-4Q	1-3Q
(U) PCS Audio Speaker Search System		3-4Q	1-4Q
(U) Advanced IMOP Classifier		1-4Q	1-4Q
(U) Modulation Recognition Using Cell Processors		1-4Q	1-4Q
(U) DDR Continuous Recording Bandwidth Improvement		1-4Q	1-4Q
(U) Geolocation Time Experiment (Geo/Timex)		2-4Q	1-4Q
(U) Cobra Ball Digitizing Antenna		2-4Q	1-4Q
(U) Beamformer	1-3Q		
(U) Multi-User Detection Demo	1-4Q		
(U) Multi-Protocol Wireless Architecture Demo	1-4Q		
(U) FY09 Proposal Calls		3Q	

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 5186 Special Programs (Airborne SIGINT Development - Special Platforms)		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5186 Special Programs (Airborne SIGINT Development - Special Platforms)	4.212	11.375	5.514	6.756	14.032	12.535	5.105	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) This project will be used to fund SIGINT development efforts in programs such as SENIOR SCOUT, Small UAVs and others.

(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 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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Signals Intelligence (SIGINT) Sensor Integration	4.212	11.375	5.514
(U) Total Cost	4.212	11.375	5.514

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</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) 0503115F	3.434	3.671	3.970	4.063	4.116	4.198	4.281	Continuing	TBD

(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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Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2008

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)
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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u> SIGINT Sensor Integration	Various	Sierra Nevada, Reno, NV	0.000	4.212	Jan-07	11.375	Jan-08	5.514	Jan-09	Continuing	TBD	TBD
Subtotal Product Development Remarks:			0.000	4.212		11.375		5.514		Continuing	TBD	TBD
(U) Total Cost			0.000	4.212		11.375		5.514		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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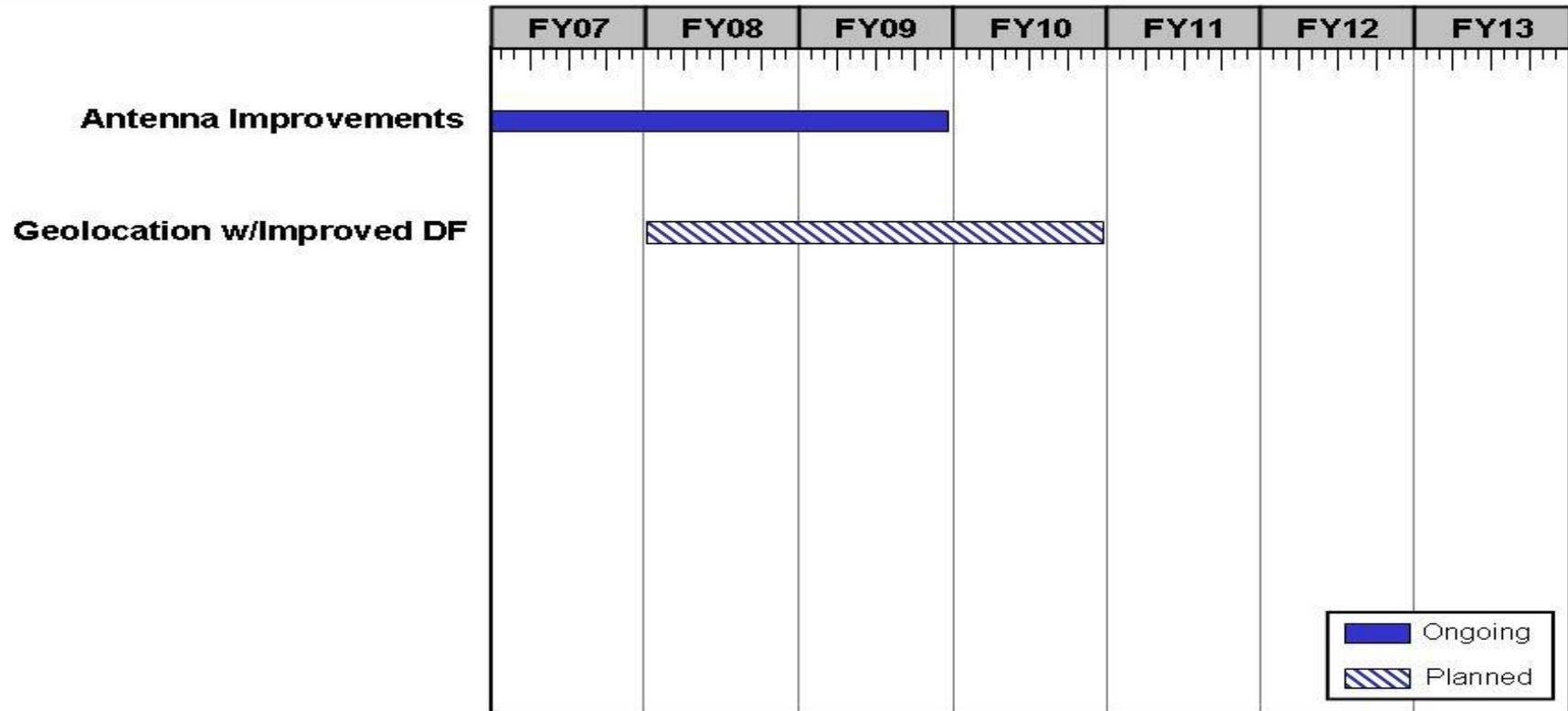
BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0304260F Airborne SIGINT Enterprise (JMIP)

PROJECT NUMBER AND TITLE
5186 Special Programs (Airborne SIGINT Development - Special Platforms)



ASE Special Programs Development SENIOR SCOUT



FY08 Staffer Brief

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
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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)
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(U) <u>Schedule Profile</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Sensor Development on Senior Scout	1-4Q	1-4Q	1-4Q