

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
---	------------------------------

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING
--	--

Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	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	257.687	247.726	298.501	317.764	246.182	206.873	170.321	172.300	Continuing	TBD
5144 Global Hawk	257.687	247.726	298.501	317.764	246.182	206.873	170.321	172.300	Continuing	TBD

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

This funding is developing the highly capable Global Hawk System, which is comprised of aircraft, payload, ground segment, and support segment. The aircraft is fully autonomous, high altitude, long endurance remotely piloted aircraft (RPA). The RQ-4A has one configuration known as the Block 10. The Block 10 is an imagery-intelligence (IMINT) RPA designed to employ 2000 pounds of payload. The Block 10 employs an IMINT system comprised of a synthetic aperture radar (SAR) sensor and an electro-optical (EO) / infrared (IR) sensor called the integrated sensor suite (ISS). The RQ-4B has three configurations: Block 20, Block 30, and Block 40. All three configurations are designed to employ 3000 pounds of payload and enable multi-intelligence (multi-INT) collecting. Multi-INT collection is intended to mean the simultaneous collection of IMINT and signals intelligence (SIGINT). The Block 20 will employ an upgraded SAR and EO/IR sensors known as the enhanced ISS (EISS) in an IMINT only role. Although the Block 20 is wired for future integration and employment of SIGINT sensors, it is being procured prior to the availability of a modern SIGINT system. Only six aircraft will be procured in the Block 20 configuration. The Air Force will determine at a later time if the Block 20 will be retrofit to become multi-INT, or fill some other role. The Block 30 will employ the same EISS sensors as the Block 20 and will also integrate a modern, wide-spectrum SIGINT sensor suite capability simultaneously to be used as a multi-INT platform. The Block 40 will integrate the multi-platform radar technology insertion program (MP-RTIP) radar sensor, and currently plans to only carry the MP-RTIP sensor. Funds will enable the integration and testing of the improved payload designs. The user will ultimately determine the optimal quantities and payloads for each aircraft configuration based on operational requirements. The ground station (GS) includes the mission control element (MCE) and the launch and recovery element (LRE). The support segment includes aerospace ground equipment, tech orders, spares, support equipment, and training to enable the Global Hawk System.

The Global Hawk program went through a Title 10, Section 2433 review in 2006, due to unit cost breach (informally known as "Nunn-McCurdy"). The Department certified the program to Congress on June 5, 2006. As a result of the review, the Department directed a program restructure to slow development and reduce risk.

When judged feasible and affordable, this program will participate in the development, testing and implementation of international standards (to include NATO standardization agreements) to enhance joint, allied and coalition interoperability.

This program is budget activity 7, Operational Systems Development, because it utilizes Air Force R&D to develop a highly capable operational system.

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2007

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305220F GLOBAL HAWK DEVELOPMENT/FIELDING

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	327.696	247.665	208.507	151.801
(U) Current PBR/President's Budget	257.687	247.726	298.501	317.764
(U) Total Adjustments	-70.009	0.061		
(U) Congressional Program Reductions				
Congressional Rescissions		-0.939		
Congressional Increases		1.000		
Reprogrammings	-70.009	0.000		
SBIR/STTR Transfer				

(U) **Significant Program Changes:**

During 2006 execution year, and as part of the Nunn-McCurdy unit cost breach review, a portion of the 2006 development activities were moved to 2008 and 2009 by the Air Force to reduce risk from concurrency. Also, the remaining years of the system development and demonstration period have been significantly restructured (2008 and beyond) to comply with Department cost estimates to complete the program, which includes the funding of government depot activities beginning in 2008. Also, non-recurring engineering activities have been added in 2008 and beyond for the standup of an additional Global Hawk System main operating base at Grand Forks, North Dakota.

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING			PROJECT NUMBER AND TITLE 5144 Global Hawk		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
5144 Global Hawk	257.687	247.726	298.501	317.764	246.182	206.873	170.321	172.300	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This funding is developing the highly capable Global Hawk System, which is comprised of aircraft, payload, ground segment, and support segment. The aircraft is fully autonomous, high altitude, long endurance remotely piloted aircraft (RPA). The RQ-4A has one configuration known as the Block 10. The Block 10 is an imagery-intelligence (IMINT) RPA designed to employ 2000 pounds of payload. The Block 10 employs an IMINT system comprised of a synthetic aperture radar (SAR) sensor and an electro-optical (EO) / infrared (IR) sensor called the integrated sensor suite (ISS). The RQ-4B has three configurations: Block 20, Block 30, and Block 40. All three configurations are designed to employ 3000 pounds of payload and enable multi-intelligence (multi-INT) collecting. Multi-INT collection is intended to mean the simultaneous collection of IMINT and signals intelligence (SIGINT). The Block 20 will employ an upgraded SAR and EO/IR sensors known as the enhanced ISS (EISS) in an IMINT only role. Although the Block 20 is wired for future integration and employment of SIGINT sensors, it is being procured prior to the availability of a modern SIGINT system. Only six aircraft will be procured in the Block 20 configuration. The Air Force will determine at a later time if the Block 20 will be retrofit to become multi-INT, or fill some other role. The Block 30 will employ the same EISS sensors as the Block 20 and will also integrate a modern, wide-spectrum SIGINT sensor suite capability simultaneously to be used as a multi-INT platform. The Block 40 will integrate the multi-platform radar technology insertion program (MP-RTIP) radar sensor, and currently plans to only carry the MP-RTIP sensor. Funds will enable the integration and testing of the improved payload designs. The user will ultimately determine the optimal quantities and payloads for each aircraft configuration based on operational requirements. The ground station (GS) includes the mission control element (MCE) and the launch and recovery element (LRE). The support segment includes aerospace ground equipment, tech orders, spares, support equipment, and training to enable the Global Hawk System.

The Global Hawk program went through a Title 10, Section 2433 review in 2006, due to unit cost breach (informally known as "Nunn-McCurdy"). The Department certified the program to Congress on June 5, 2006. As a result of the review, the Department directed a program restructure to slow development and reduce risk.

When judged feasible and affordable, this program will participate in the development, testing and implementation of international standards (to include NATO standardization agreements) to enhance joint, allied and coalition interoperability.

This program is budget activity 7, Operational Systems Development, because it utilizes Air Force R&D to develop a highly capable operational system.

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue spiral development and related tasks, to satisfy Capabilities Description Document requirements.				
(U) Aircraft	37.299	20.131	30.807	25.715
(U) Payloads (includes investments for standup of Grand Forks)	30.745	33.407	48.069	63.178
(U) Ground Segment	16.994	29.407	36.695	15.214

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING	PROJECT NUMBER AND TITLE 5144 Global Hawk
--	--	--

(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Communications (includes investments for standup of Grand Forks)	26.453	16.824	20.370	37.505
(U) Support Segment (includes investments for depot)	32.230	41.369	58.168	67.145
(U) Block Load (System Engineering, Program Management, Flight test support, and software maintenance)	53.116	63.180	56.603	58.515
(U) AFFTC	8.781	7.940	11.826	12.141
(U) Other Government Costs & Mission Support	17.430	22.143	35.963	38.351
(U) Multi-Platform Radar Technology Improvement Program (MP-RTIP) sensor adaptation	17.613	7.684		
(U) Fielding Strategy Acceleration	17.026	5.641		
(U) Total Cost	257.687	247.726	298.501	317.764

(U) C. Other Program Funding Summary (\$ in Millions)	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to Complete</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>								
(U) Airborne SIGINT Enterprise, AF RDT&E (PE 34260F)	4.958	10.520	10.770	11.018	11.258	11.438	11.690	11.946	Continuing	TBD
(U) * Joint Tactical Radio System, AF RDT&E (PE 27423F)	5.350	16.000	4.580	1.350	20.060	23.940	24.200	24.890	Continuing	TBD
(U) Other APPN										
(U) AF MILCON	14.058	52.800								
(U) AF O&M	65.583	69.102	83.906	123.670	158.401	161.558	173.576	177.468	Continuing	TBD
(U) AF MILPERS	20.728	29.851	38.802	49.778	55.380	57.070	68.530	80.641	Continuing	TBD
(U) Aircraft Procurement, APPN 10 AF (HAE UAV)	359.563	448.017	577.846	714.944	523.898	542.626	568.935	484.472	0.000	4,220.301
(U) Aircraft Procurement, APPN 11 AF (HAE UAV)	0.000	4.592	24.332	106.588	110.841	128.586	110.544	57.563	Continuing	TBD
(U) Other Procurement, 3080 (HAE UAV)	0.275	0.000	0.816	0.300	0.000	0.000	0.000	0.000	0.000	1.391

* PE 0207423F is the Joint Tactical Radio System (JTRS) development program. JTRS was recently restructured and development activity in support of Global Hawk beyond 2006 is in requirements and standards review at the Department level.

(U) D. Acquisition Strategy
The Global Hawk program uses a Spiral Development strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis												DATE February 2007		
BUDGET ACTIVITY 07 Operational System Development						PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING				PROJECT NUMBER AND TITLE 5144 Global Hawk				
<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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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>														
EMD (includes Spiral Development increases for depot investment and stand up of Grand Forks main operating base)	SS/CPAF	Northrop Grumman Integrated Systems, San Diego, CA	248.194	210.581	Feb-06	202.100	Feb-07	241.543	Feb-08	226.816	Feb-09	Continuing	TBD	TBD
MP-RTIP Adaptation	SS/CPAF	Northrop Grumman Integrated Systems, El Segundo, CA	33.229	17.613	Jan-06	7.684	Nov-06						58.526	58.526
ASIP	SS/CPAF	Northrop Grumman Electronic Systems Laboratory, San Jose, CA	69.074							31.100	Feb-09		100.174	
Subtotal Product Development			350.497	228.194		209.784		241.543		257.916		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u>														
Contractor Program Support	SS/CPFF	Northrop Grumman Integrated Systems, San Diego, CA	2.226	3.282	Jan-06	7.859	Jan-07	9.169	Jan-08	9.355	Jan-09	Continuing	TBD	TBD
Government Program Support	Various	Various Government Organizations	1.895	6.321	Dec-05	12.379	Dec-06	24.558	Dec-07	26.319	Dec-08	Continuing	TBD	TBD
Subtotal Support			4.121	9.603		20.238		33.727		35.674		Continuing	TBD	TBD
Remarks:														
<u>(U) Test & Evaluation</u>														
Flight Test & Evaluation	PO	AFFTC, Edwards	11.891	8.781	Jan-06	7.940	Jan-07	11.826	Jan-08	12.141	Jan-09	Continuing	TBD	TBD
Subtotal Test & Evaluation			11.891	8.781		7.940		11.826		12.141		Continuing	TBD	TBD
Remarks:														
<u>(U) Management A&AS</u>	PR	Various	6.183	7.273	Mar-06	6.828	Nov-06	7.357	Nov-07	7.902	Nov-08	Continuing	TBD	TBD

R-1 Line Item No. 206

Page-5 of 8

Project 5144

Exhibit R-3 (PE 0305220F)

1997

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE			
07 Operational System Development				0305220F GLOBAL HAWK DEVELOPMENT/FIELDING			5144 Global Hawk			
Other Government Organizations	Various	Contractors, Dayton, OH Various, Dayton, OH	4.464	3.836	2.936	4.048	4.131	Continuing	TBD	TBD
Subtotal Management			10.647	11.109	9.764	11.405	12.033	Continuing	TBD	TBD
Remarks:										
(U) Total Cost			377.156	257.687	247.726	298.501	317.764	Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE
February 2007

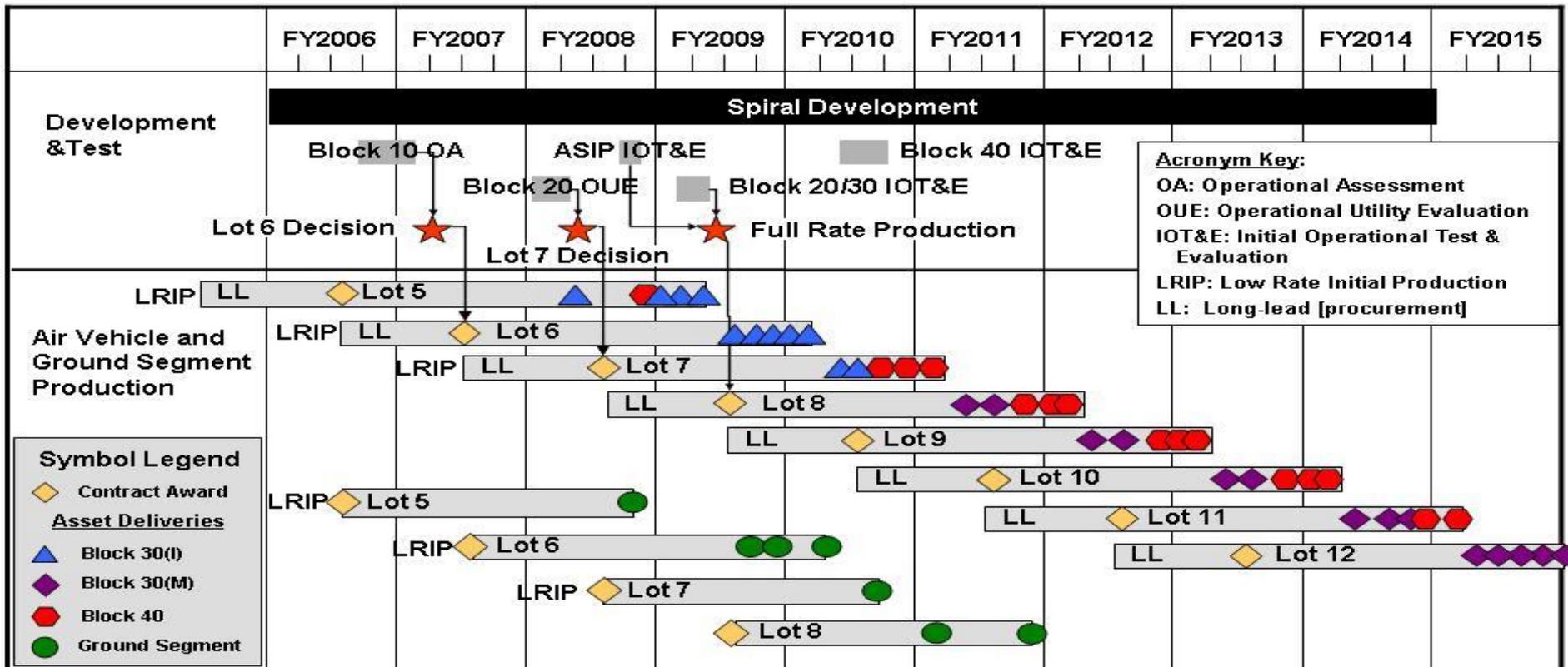
BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0305220F GLOBAL HAWK
DEVELOPMENT/FIELDING

PROJECT NUMBER AND TITLE
5144 Global Hawk



Global Hawk Schedule



Integrity - Service - Excellence

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
--	------------------------------

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING	PROJECT NUMBER AND TITLE 5144 Global Hawk
--	--	--

(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) In-progress review	1Q			
(U) SIGINT High Band Subsystems (HBS) Demonstration	1Q			
(U) Wing Ultimate Load Test	4Q			
(U) Fuselage Ultimate Load Test (V-tail, composite AFT, metallic fuselage)		1Q		
(U) RQ-4B Block 20 First Flight		2Q		
(U) Block 40 Integration CDR		4Q		
(U) ASIP sensor delivers for integration with Block 30		4Q		
(U) Block 20 Operational Utility Evaluation			1Q	
(U) ASIP/Block 30 development test flights begin			2Q	
(U) Spiral 5 Contract Award			2Q	
(U) IOT&E				1Q