

UNCLASSIFIED

PE NUMBER: 0305220F

PE TITLE: GLOBAL HAWK DEVELOPMENT/FIELDING

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2006

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305220F GLOBAL HAWK DEVELOPMENT/FIELDING

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	382.557	327.697	247.665	208.507	151.801	146.767	109.335	Continuing	TBD
5144 Global Hawk	382.557	327.697	247.665	208.507	151.801	146.767	109.335	Continuing	TBD

Global Hawk and Predator no longer share the same Program Element (PE). Effective FY05, Global Hawk funding will be in PE 0305220F, project 675144. The new PE was named GLOBAL HAWK DEVELOPMENT/FIELDING. Predator funding moved to PE 0305219F, project 675143. This PE was named PREDATOR DEVELOPMENT/FIELDING. Beginning in FY06, Signals Intelligence (SIGINT) development and integration funding for all platforms, including Global Hawk, transfers to the Airborne SIGINT Enterprise PE 0304260F.

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

The Global Hawk System provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

This funding is developing the highly capable Global Hawk System, which is comprised of an aircraft, a ground segment, and a support segment. The aircraft is a fully autonomous, high altitude, long endurance remotely piloted aircraft (RPA). The RQ-4A is an imagery intelligence-collecting RPA designed to carry 2,000 pounds of payload. The RQ-4B is a multi-intelligence collecting RPA designed to carry a 3,000-pound payload. Funds will also enable integration and testing of improved payload designs, including a Synthetic Aperture Radar (SAR), an Electro-Optical (EO)/Infrared (IR) camera, Signals Intelligence (SIGINT), and the Multi-Platform Radar Technology Insertion Program (MP-RTIP), etc. The user will determine the optimal payload configuration and quantity for each aircraft based on current 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, training, etc., to enable the Global Hawk System.

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.

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

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	333.167	308.533	208.729
(U) Current PBR/President's Budget	382.557	327.697	247.665
(U) Total Adjustments	49.390	19.164	
(U) Congressional Program Reductions			
Congressional Rescissions	-0.255	-4.736	
Congressional Increases	39.700	23.900	
Reprogrammings	9.945		
SBIR/STTR Transfer			

(U) **Significant Program Changes:**

In FY05, \$39.7M was added to the program via GWOT supplement. \$34.7M of the supplemental was executed in the Global Hawk program and \$5M was realigned by headquarters Air force and used for research on volumetric radar data processing development. Additionally, \$9.945M was reprogrammed to cover the EMD overrun.

The FY06 Appropriations Act transferred \$18.2M in Global Hawk Production funding to Global Hawk RDT&E (project number 675144). Additionally, Congress added \$1.2M of RDT&E for Night Hunter II development on Global Hawk and \$4.5M of RDT&E for growth engine development on Global Hawk

In FY07, \$37.0M was added by the Air Force to facilitate a Global Hawk program realignment to meet operational readiness and development requirements. The remaining development program for Global Hawk was restructured for the remaining years to reduce risk while delivering incremental operational capability at the same time. FY2008 through FY2010 are also impacted in the restructure.

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PROJECT NUMBER AND TITLE

5144 Global Hawk

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Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

(U) Continue spiral development and related tasks, to satisfy Capabilities Description Document requirements.

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Aircraft	97.696	114.339	79.153
(U) Payloads	16.399	55.809	30.404
(U) Ground Station	13.810	30.923	32.129
(U) Support Segment	13.164	24.310	18.180
(U) Program Management	27.790	5.846	6.545
(U) Systems Engineering	16.900	16.700	17.980
(U) Test	23.190	30.800	28.000

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(U) <u>B. Accomplishments/Planned Program (\$ in Millions)</u>		<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U)	Provide government test and evaluation support at Edwards AFB	11.253	10.281	12.930
(U)	Provide government mission support, and other related costs.	13.714	12.853	14.660
(U)	Demonstrations and exercises	0.638		
(U)	Multi-Platform Radar Technology Improvement Program (MP-RTIP) sensor adaptation	33.229	17.613	7.684
(U)	GWOT Supplemental Funding	34.700		
(U)	Volumetric Radar Data Processing development	5.000		
(U)	Fielding Strategy Acceleration	13.000	8.223	
(U)	Continue advanced Airborne Signals Intelligence Program (ASIP) payload modernization for Global Hawk and U-2.*	62.074		
(U)	Total Cost	382.557	327.697	247.665
* ASIP platform integration for Global Hawk is in the spiral development line and for the U-2 it is in PE 0305202F, project 674820.				

(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) AF RDT&E (PE 35205F)									
(U) AF RDT&E (PE 34260F)		4.958	10.520	10.770	11.018	11.258	11.438	Continuing	TBD
(U) AF RDT&E (PE 27423F)		5.352	16.064	11.266	15.869	20.179	24.066	Continuing	TBD
(U) Other APPN									
(U) AF MILCON	9.911	14.058	78.800						
(U) AF O&M	60.491	18.869	72.615	84.431	115.703	133.417	137.473	Continuing	TBD
(U) AF MILPERS	17.777	24.308	29.471	39.065	49.562	55.254	57.018	Continuing	TBD
(U) Aircraft Procurement, APPN 10 AF (HAE UAV)	359.072	359.608	493.191	519.849	576.361	579.286	609.909	Continuing	TBD
(U) Aircraft Procurement, APPN 11 AF (HAE UAV)			11.309	23.681	78.566	95.598	64.093	Continuing	TBD
(U) Other Procurement, 3080 (HAE UAV)	0.263	0.283		0.816					

(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.

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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</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> Spiral development	SS/CPAF	Northrop Grumman Integrated Systems, San Diego, CA		238.301	Feb-05	286.944	Feb-06	212.391	Feb-07	Continuing	TBD	TBD
SIGINT sensor development	SS CPAF	Northrop Grumman Electronic Systems Laboratory, San Jose, CA		62.074	Feb-05					0.000	62.074	TBD
Ground station development	SS CPAF	Raytheon, Falls Church, VA		12.832	Feb-05					0.000	12.832	TBD
Communications systems development	SS CPAF	L-3, Salt Lake City, UT		5.507	Mar-05					0.000	5.507	TBD
MP-RTIP adaptation	SS CPAF	Northrop Grumman Integrated Systems, El Segundo, CA		33.229	Feb-05	17.613	Feb-06	7.684	Feb-07	Continuing	TBD	TBD
Volumetric Radar Data Processing Development				5.000	Oct-05					0.000	5.000	TBD
Subtotal Product Development			0.000	356.943		304.557		220.075		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u> Contractor Program support	SS/CPFF	Northrop Grumman Integrated Systems, San Diego, CA		1.433	Jan-05					0.000	1.433	TBD
Govt. Program support	MIPR	Various Govt Orgs		3.262	Dec-04	2.488	Dec-05	3.299	Dec-06	Continuing	TBD	TBD
Subtotal Support			0.000	4.695		2.488		3.299		Continuing	TBD	TBD
Remarks:												
(U) <u>Test & Evaluation</u> Flight test and Evaluation	PO	AFFTC, Edwards AFB		10.195	Jan-05	10.281	Jan-06	12.930	Jan-07	Continuing	TBD	TBD
Demo & Exercise Support	MIPR / CPFF	Various contractor and		0.638	May-05					0.000	0.638	TBD

Project 5144

R-1 Shopping List - Item No. 204-6 of 204-9

Exhibit R-3 (PE 0305220F)

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Exhibit R-3, RDT&E Project Cost Analysis

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			govt orgs										
	Subtotal Test & Evaluation			0.000	10.833		10.281		12.930		Continuing	TBD	TBD
	Remarks:												
(U)	<u>Management</u>												
	A&AS	PR	Dayton, OH		9.146	Mar-05	9.431	Mar-06	10.421	Mar-07	Continuing	TBD	TBD
	Other Govt Orgs	Various	Dayton OH		0.940		0.940		0.940		Continuing	TBD	TBD
	Subtotal Management			0.000	10.086		10.371		11.361		Continuing	TBD	TBD
	Remarks:												
(U)	Total Cost			0.000	382.557		327.697		247.665		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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U.S. AIR FORCE

Proposed Program Restructure



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

	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Review Tests Lot Decision Pts	MS IILRIP		IPR	IPR		IPR	IPR					
Spiral Development <div>ACTD Assets 4 AVs 2 MCEs 3 LREs</div>	ACTD											
	Spiral Developments											
	Spiral 1 – Basic Infrastructure											
	Spiral 2 – Increase Payload, OSA (Phase 1), SAR-EO/IR											
	Spiral 3 – SIGINT, OSA (Phase 2), CNS/ATM											
	Spiral 4 – MP-RTIP, Comm, Surge A, IMS Actions											
			Authorized Lots					Spiral 5 – FMS, Engine Turbine, BIT				
												Spiral 6 & Future
Production			Lot 1	Lot 2	Lot 3	Lot 4	Lot 5	Lot 6	Lot 7	Lot 8	Lot 9	Lot 10
Air Vehicle Buy Year	RQ-4A RQ-4B		2	4+2N	1 3	4	5	6	7	7	7	8
Ground Station Buy Year			MCE	LRE-AF MCE-N LRE-2N	1 GH-GS	1 GH-GS	1 GH-GS	1 GH-GS 3 ea	1 GH-GS	1 GH-GS 2 ea		

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Exhibit R-4a, RDT&E Schedule Detail

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	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) <u>Schedule Profile</u>			
(U) SOUTHCOM Demo Initiation	1Q		
(U) Spiral 4 contract definitization award	2Q		
(U) In-progress review	2Q		
(U) Operational Assessment (FOL fielding strategy)	4Q		
(U) In-progress review		1Q	
(U) SIGINT High Band Subsystem (HBS demonstration)		1Q	
(U) Fuselage Ultimate Load Test (V-tail, composite AFT, metallic fuselage)		2Q	
(U) In-progress review (program rebaseline)		3Q	
(U) Wing Ultimate Load Test		3Q	
(U) Operational Assessment (sensor)		3Q	
(U) MP-RTIP Integration CDR		4Q	
(U) RQ-4B first flight			1Q