PE NUMBER: 0305219F
PE TITLE: PREDATOR DEVELOPMENT/FIELDING

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305219F PREDATOR 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	54.100	67.885	22.296	15.864	21.240	20.922	21.320	21.746	Continuing	TBD
5143 Predator	54.100	67.885	22.296	15.864	21.240	20.922	21.320	21.746	Continuing	TBD

The MQ-9 Program moves to PE 0205219F in FY08. Historical MQ-9 accomplishments remain in this document.

(U) A. Mission Description and Budget Item Justification

The basic MQ-1 system consists of the aircraft, a control station, communications equipment, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. The system is designed to be modular and open-ended: mission-specific equipment is employed in a 'plug-and-play' mission kit concept allowing specific aircraft and control station configurations to be tailored to fit mission needs.

The MQ-1 aircraft is a single-engine, propeller-driven, remotely piloted aircraft (formerly called unmanned aerial vehicle) designed to operate over-the-horizon at medium altitude for long endurance sorties. The aircraft is designed to provide real-time Intelligence, Surveillance, Reconnaissance, and Target Acquisition (ISR TA), and attack roles to aggressively prosecute Time Sensitive Targets (TST). The MQ-1 will operate primarily at medium altitudes, integrating with joint aerospace, ground, and maritime forces as well as coalition and Allied forces, to execute combatant commander priority missions. The aircraft carries a Multi-spectral Targeting System (MTS) (a sensor turret that incorporates electro-optical (EO), Infra-Red (IR), laser designator, and IR illuminator) capable of transmitting real-time motion imagery throughout the operational theater. The program will develop and integrate Target Location Accuracy and Metric Sensor improvements. Additionally, the aircraft is multi-configurable to carry either a Synthetic Aperture Radar (SAR) or Hellfire laser-guided missiles. The MQ-1 system will continue to evolve and upgrade its capabilities (which may include SIGINT, communications, Target Location Accuracy and other sensor packages) to satisfy capability shortfalls, new requirements and reliability and maintainability (R&M) and safety issues. Major changes will be classified as distinct blocks or Mission Design Series updates.

The Ground Control Station (GCS) functions as the aircraft cockpit and can control the aircraft either within line-of-sight (LOS) or beyond LOS (BLOS) via a combination of satellite relay and terrestrial communications. The GCS is either mobile to support forward operating locations or fixed at a facility to support Remote Split Operations (RSO). The GCS has the capability to perform mission planning; provide a means for manual and/or autonomous control, and a GCS configuration to allow control of multiple aircraft and payloads; allow personnel to launch, recover, and monitor aircraft, payloads, and system communications status; secure data links to receive payload sensor data and command links; monitor threats to the aircraft; display common operation picture; and provide support functions. Additionally, a Launch and Recovery GCS (LRGCS) allows for servicing, systems checks, maintaining, launching, and recovering aircraft under LOS control for hand-off to a mobile or fixed facility GCS. The GCS will continue to evolve and upgrade its capabilities to keep pace with MQ-1 aircraft capabilities and the missions they perform.

This program will participate in the development, testing, and implementation of various standards to pursue joint, Allied, and coalition interoperability. These include FAA, Congressional, or OSD mandated standards; as well as international standards, including NATO standardization agreements.

This program is budget activity 7, Operational Systems Development, because it involves Air Force R&D to field a highly capable operational system and provide

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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essential operational capabilities.

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

		FY 2006	FY 2007	FY 2008	FY 2009
(U)	Previous President's Budget	64.081	61.466	18.057	14.653
(U)	Current PBR/President's Budget	54.100	67.885	22.296	15.864
(U)	Total Adjustments	-9.981			
(U)	Congressional Program Reductions		-0.024		
	Congressional Rescissions		-0.257		
	Congressional Increases		6.700		
	Reprogrammings	-9.981			
	SBIR/STTR Transfer				

(U) Significant Program Changes:

The MQ-9 Program moves to PE 0205219F in FY08.

Exhibit R-2a, RDT&E Project Justification			DATE: February 2007
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305219F PREDATOR DEVELOPMENT/FIELDING	PROJECT NUMBER AND TITLE: 5143 Predator	

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
5143 Predator	54.100	67.885	22.296	15.864	21.240	20.922	21.320	21.746	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

The MQ-9 Program moves to PE 0205219F in FY08. Historical MQ-9 accomplishments remain in this document.

(U) A. Mission Description and Budget Item Justification

The basic MQ-1 system consists of the aircraft, a control station, communications equipment, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. The system is designed to be modular and open-ended: mission-specific equipment is employed in a 'plug-and-play' mission kit concept allowing specific aircraft and control station configurations to be tailored to fit mission needs.

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This program will participate in the development, testing, and implementation of various standards to pursue joint, Allied, and coalition interoperability. These include FAA, Congressional, or OSD mandated standards; as well as international standards, including NATO standardization agreements.

This program is budget activity 7, Operational Systems Development, because it involves Air Force R&D to field a highly capable operational system and provide

Exhibit R-2a, RDT&E Project Justification		DATE February 2007
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305219F PREDATOR DEVELOPMENT/FIELDING**	PROJECT NUMBER AND TITLE **5143 Predator**

essential operational capabilities.

	B. Accomplishments/Planned Program ($ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
(U)	* MQ-1/MQ-9 Pre-planned Product Improvement. Includes advanced capabilities (such as multiple aircraft control/operations), engine and landing gear upgrades, sensor and radar development/integration, quick reaction capabilities, payload development/integration, weaponization and experimentation, data link upgrades (including encryption and tactical common data link (TCDL)), mission planning, simulator/training devices, and ground station and communication equipment development/upgrades. * MQ-9 data is historical for FY06 and FY07. FY08 and FY09 data is MQ-1-only.	12.230	18.926	12.439	7.165
(U)	MQ-1 Video Verification and Identification (VIVID)		2.000		
(U)	MQ-9 Risk Reduction & Quick Reaction Capability. Includes initial integration of weapons, engine, power upgrades, and tech data.	8.615			
(U)	MQ-9 System Development and Demonstration (SDD). Includes aircraft/GCS/Communication system improvements, development and integration of follow-on sensors, weapon and payload integration, test and training capability, technical data.	12.700	27.867		
(U)	* Continue reliability and maintainability efforts to ensure the continued viability of the MQ-1/MQ-9 aircraft, GCS, and associated communications equipment. * MQ-9 data is historical for FY06 and FY07. FY08 and FY09 data is MQ-1-only.	0.500	0.500	0.500	0.500
(U)	System Concept Studies	1.500	1.500	1.500	1.500
(U)	Developmental and Operational Test support (includes SATCOM, Flight Test, Urgent Services)	5.600	4.092	3.857	3.699
(U)	Operator Simulator/Training	8.955	5.000		2.000
(U)	Small Tactical UAVs for Battlefield Intelligence, Communications, and Atmospheric Data Collection (Congressional Add)	2.500			
(U)	Field Support	1.500	1.300		
(U)	MQ-1 TLA/Metric Sensor			4.000	1.000
(U)	Sense and Avoid for Predator (Congressional Add)		1.000		
(U)	Selectively Targeted Skeet Munition (Congressional Add)		1.000		
(U)	Center for Defense UAV Education (Congressional Add)		3.000		
(U)	Scan Eagle Advanced Concepts Development (Congressional Add)		1.700		
(U)	Total Cost	54.100	67.885	22.296	15.864

Exhibit R-2a, RDT&E Project Justification		DATE: February 2007
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(U) C. Other Program Funding Summary ($ 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 Cost
(U) Other APPN										
(U) Aircraft Procurement, AF (PE 0305219F)	253.562	235.027	277.999	287.376	250.941	151.915	134.206	111.132	Continuing	TBD
(U) Aircraft Modification, AF (PE 0305219F)	29.880	58.043	74.692	136.379	128.790	132.673	97.637	94.965	Continuing	TBD

(U) D. Acquisition Strategy

The MQ-1 Predator system will be acquired sole-source with General Atomics-ASI as the prime contractor.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2007**

BUDGET ACTIVITY: **07 Operational System Development**

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PROJECT NUMBER AND TITLE: **5143 Predator**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2006 Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development														
MQ-1/MQ-9 Development	SS/CPIF/ CPFF	General Atomics-ASI , Rancho Bernardo CA		30.575	Feb-06	49.543	Feb-07	12.939	Feb-08	7.665	Feb-09	Continuing	TBD	TBD
Multi-spectral Targeting Systems	MIPR	Raytheon, McKinney TX		4.970	Feb-06	1.250	Feb-07	1.500	Feb-08	1.500	Feb-09	Continuing	TBD	TBD
Operator Simulator	CPFF	677 AESG, Wright-Patterson AFB OH		8.955	Feb-06	5.000	Feb-07			2.000	Feb-09	0.000	15.955	15.955
Target Location Accuracy	Various	Raytheon, McKinney TX						4.000	Apr-08	1.000	Apr-09	Continuing	TBD	TBD
Congressional Adds	Various	Various		2.500	Apr-07	6.700	Apr-07					0.000	9.200	9.200
Subtotal Product Development			0.000	47.000		62.493		18.439		12.165		Continuing	TBD	TBD
Remarks:														
(U) Support														
Field Support	SS/T&M	ASC, Wright-Patterson AFB OH		1.500	Feb-06	1.300	Feb-07					Continuing	TBD	TBD
Subtotal Support			0.000	1.500		1.300		0.000		0.000		Continuing	TBD	TBD
Remarks:														
(U) Test & Evaluation														
Development and Operational Test Support	Various	Various		5.600	Feb-06	4.092	Feb-07	3.857	Feb-08	3.699	Feb-09	Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	5.600		4.092		3.857		3.699		Continuing	TBD	TBD
Remarks:														
(U) Total Cost			0.000	54.100		67.885		22.296		15.864		Continuing	TBD	TBD

Exhibit R-4a, RDT&E Schedule Detail		DATE: February 2007
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305219F PREDATOR DEVELOPMENT/FIELDING	PROJECT NUMBER AND TITLE: 5143 Predator

(U) Schedule Profile	FY 2006	FY 2007	FY 2008	FY 2009
(U) MQ-1 P3I	1-4Q	1-4Q	1-4Q	1-4Q
(U) MQ-1 Simulator Development Complete				1Q
(U) MQ-9 Risk Reduction Complete		4Q		
(U) Improved Target Location Accuracy Development Complete			3Q	
(U) SIGINT Payload Integration Complete				1Q