



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-424



MQ-9 Reaper Unmanned Aircraft System (MQ-9 Reaper)

As of FY 2011 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget

PE - Program Element

PEO - Program Executive Officer

PM - Program Manager

POE - Program Office Estimate

RDT&E - Research, Development, Test, and Evaluation

SAR - Selected Acquisition Report

SCP - Service Cost Position

TBD - To Be Determined

TY - Then Year

UCR - Unit Cost Reporting

U.S. - United States

USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

REAPER Unmanned Aircraft System (UAS) (REAPER)

DoD Component

AirForce

Responsible Office

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Date Assigned: July 10, 2008

References

SAR Baseline (Production Estimate)

FY 2011 President's Budget dated February 1, 2010

Mission and Description

The Reaper Unmanned Aircraft System (UAS) is a multi-mission Hunter-Killer and Intelligence, Surveillance, and Reconnaissance (ISR) system, which provides the combat commander with a persistent capability to find, fix, track, target, engage, and assess Time Sensitive Targets. In the Hunter-Killer mission, the Reaper offers the commander a choice of weapons including the Hellfire Air-to-Ground Missile, Laser Guided Bombs, and Joint Direct Attack Munitions. The Reaper is the only UAS in the world capable of accurately firing missiles and dropping bombs. In the ISR role, the Reaper's ability to fly for up to 14 hours at altitudes up to 25,000-30,000 feet while carrying up to 3,000 pounds on the wings make it the platform of choice for a number of ISR and strike missions. This ability to support a wide variety of operations results in a steady stream of requirements to develop new capabilities to support an expanding array of missions. As a result of the combat deployment of the developmental system, the Reaper is supported and maintained by contractor logistics support personnel under contract and managed by the Reaper program office.

A Reaper system consists of four aircraft, a Ground Control Station (GCS), a Satellite Communications terminal, support equipment, maintenance, and operations personnel deployed for 24-hour operations. The aircraft is controlled by a pilot who is located in the GCS. Control commands are transmitted from the GCS to the aircraft by a ground-based datalink terminal. The GCS incorporates workstations that allow operators to plan missions, control and monitor the aircraft, reconnaissance sensors and weapons, and exploit received images. The Reaper carries the Multi-spectral Targeting System which integrates electro-optical, infrared, laser designator, and laser illuminator into a single sensor package.

The system is composed of four major components which can be deployed for worldwide operations. The Reaper aircraft can be disassembled and loaded into a container for travel. The ground control system is transportable in a C-130 Hercules (or larger) transport aircraft or installed in a fixed facility. The Reaper can operate on a 5,000 by 75 feet (1,524 meters by 23 meters), hard surface runway with clear line-of-sight. The ground data terminal antenna provides line-of-sight communications for takeoff and landing. The satellite communication system provides over-the-horizon control of the aircraft.

An alternate method of employment, Remote Split Operations, employs a mobile version of the ground control system for launch and recovery efforts. This system conducts takeoff and landing operations at the forward deployed location while the Continental United States based ground control system conducts the mission via extended communication links.

Executive Summary

This is the initial SAR for the Reaper program necessitated by the July 6, 2009 inclusion of the Reaper on the Major Acquisition Defense Program (MDAP) list.

In March 2006, COMACC directed early fielding to meet operational needs. To meet the early fielding date, the program was broken into two blocks with Block 1 providing initial capability to meet the early fielding date and Block 5 completing the program to the Increment I requirements as described in the Capability Production Document (CPD). Consequently, the Reaper Increment I program is comprised of Block 1 and Block 5 with Block 1 aircraft upgraded to Block 5 configuration concurrently with the Block 5 deliveries.

The Reaper's combat potential and demonstrated combat performance fueled the rapid growth of the program. By January 4, 2010, the Air Force contracted for a total of 76 Reapers which included 48 added by Congress to accelerate fielding in support of the overseas contingency operations. As of January 20, 2010, GA-ASI delivered 46 of the 391 planned aircraft, 38 of which are operationally active. While the Reaper program was initially managed as a Quick Reaction Capability program, a separate program office was established in 2006 to restructure the program to support Air Combat Command's urgent request to field the system. The Reaper has been actively flying combat missions in Operation ENDURING FREEDOM and Operation IRAQI FREEDOM since September 2007.

The program is in concurrent capability development, procurement, combat operations and support. This situation resulted from the Reaper's urgent beginnings in the weeks after September 11, 2001, its growth as a Hunter-Killer to support Operation ENDURING FREEDOM and IRAQI FREEDOM, and the Reaper's evolution into the platform of choice for both Intelligence Surveillance and Reconnaissance (ISR) and Hunter-Killer missions.

The program is currently developing an Acquisition Program Baseline.

There are no significant software issues with the program at this time.

Threshold Breaches

APB Breaches

Schedule		<input type="checkbox"/>
Performance		<input type="checkbox"/>
Cost	RDT&E	<input type="checkbox"/>
	Procurement	<input type="checkbox"/>
	MILCON	<input type="checkbox"/>
	Acq O&M	<input type="checkbox"/>
O&S Cost		<input type="checkbox"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

Nunn-McCurdy Breaches

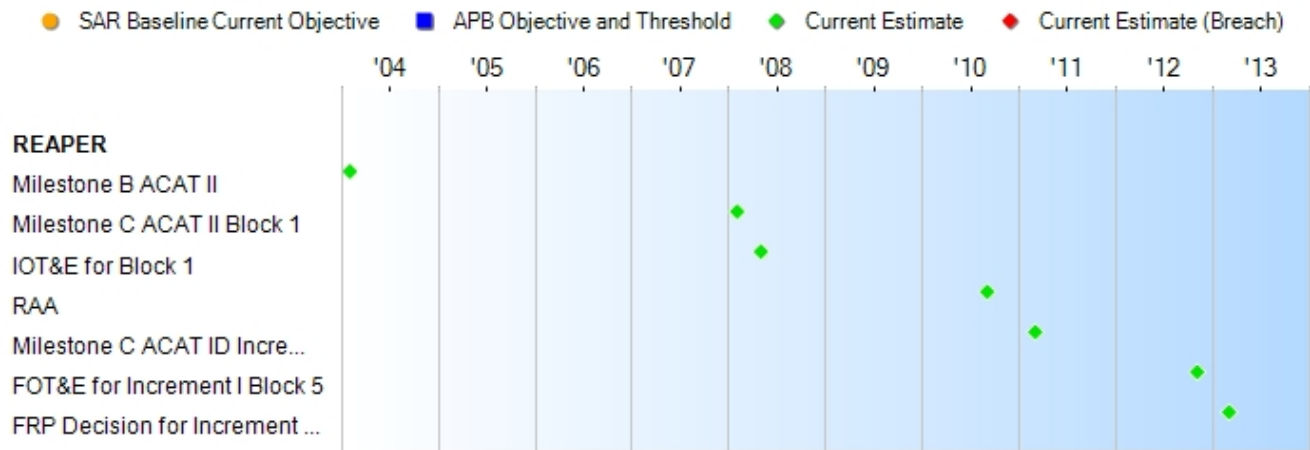
Current UCR Baseline

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Schedule Events				
Events	SAR Baseline Production Estimate	Current APB Objective/Threshold		Current Estimate
Milestone B ACAT II	Feb 2004	N/A	N/A	Feb 2004
Milestone C ACAT II Block 1 ¹	Feb 2008	N/A	N/A	Feb 2008
IOT&E for Block 1 ¹	May 2008	N/A	N/A	May 2008
RAA	Sep 2010	N/A	N/A	Sep 2010
Milestone C ACAT ID Increment 1, Block 5 ¹	Mar 2011	N/A	N/A	Mar 2011
FOT&E for Increment I Block 5	Nov 2012	N/A	N/A	Nov 2012
FRP Decision for Increment I Block 1 and 5	Mar 2013	N/A	N/A	Mar 2013

Change Explanations

None

Notes

Required Assets Available (RAA): Two (2) fixed Ground Control Stations (GCS), two (2) mobile GCSs, six (6) Primary Mission Aircraft Inventory (PMAI) Block 1 aircraft, technical orders, support equipment, initial and readiness spares packages, and logistics support.

Acronyms and Abbreviations

ACAT - Acquisition Category

COMACC - Commander, Air Combat Command

CPD - Capabilities Production Document for MQ-9 Reaper Hunter-Killer, Increment 1, ACAT II, 18 Aug 06

DT&E - Developmental Test and Evaluation

IOT&E - Initial Operational Test and Evaluation

RAA - Required Assets Available

Performance

Performance Characteristics				
SAR Baseline Production Estimate	Current APB Objective/Threshold		Demonstrated Performance	Current Estimate
Hunter				
The system's capability must allow a targeting solution at the weapon's maximum range.	N/A	N/A	DT ongoing for KPP; AFOTEC IOT&E did not evaluate KPP due to system availability; Full KPP evaluation deferred to future IOT&E	The system's capability must allow a targeting solution at the weapon's maximum range.
Killer				
System must be capable of computing a weapon's release point, passing required information, at the required accuracy, to the weapon and reliably releasing the weapon upon command.	N/A	N/A	AFOTEC IOT&E found KPP operationally effective and suitable	System must be capable of computing a weapon's release point, passing required information, at the required accuracy, to the weapon and reliably releasing the weapon upon command.
Net Ready: The system must support Net-Centric military operations. The system must be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission effectiveness. The system must continuously provide survivable, interoperable, secure, and operationally effective information exchanges to enable a Net-Centric military capability.				
The System must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW-RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an ATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and	N/A	N/A	JITC certified KPP; JITC certification is renewed for each software update	The System must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW-RM Enterprise Services 4) Information assurance requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an Approval to Operate by the Designated Approval Authority (DAA), and 5) Operationally effective information exchanges; and mission critical performance and information assurance attributes,

information assurance attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.					
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data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.

Change Explanations

None

Acronyms and Abbreviations

AFOTEC - Air Force Operational Test and Evaluation Center
DISR - Department of Defense Information Technology Standards Registry
DT - Developmental Testing
FOT&E - Follow-on Operational Test and Evaluation
GIG - Global Information Grid
IOT&E - Initial Operational Test and Evaluation
IT - Information Technology
JITC - Joint Interoperability Test Command
KIP - Key Interface Profile
KPP - Key Performance Parameter
NCOW-RM - Net-Centric Operations and Warfare Reference Model
TV-1 - Technical Standards Profile

Track to Budget

General Notes

Program Element 0305205F is shared by both the Predator and Reaper programs.

RDT&E

Appn	BA	PE	
Air Force	3600	07	0205219F
	Project	Name	
	5246	MQ-9 Development and Fielding	
Air Force	3600	07	0305205F
	Project	Name	
	4755	(Shared)	

Procurement

Appn	BA	PE	
Air Force	3010	04	0205219F
	Line Item	Name	
	10REPR	Aircraft Procurement	
Air Force	3010	04	0305205F
	Line Item	Name	
	10PDTR	Aircraft Procurement (Shared)	

MILCON

Appn	BA	PE	
Air Force	3300	01	0205219F
	Project	Name	
	BHD000	MQ-9 Operations	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY \$M			BY 2008 \$M	TY \$M		
	SAR Baseline Production Estimate	Current APB Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Objective	Current Estimate
RDT&E	778.8	--	--	778.8	809.9	--	809.9
Procurement	9824.0	--	--	9824.0	10866.0	--	10866.0
Flyaway	--	--	--	8038.7	--	--	8943.4
Recurring	--	--	--	8038.7	--	--	8943.4
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	1785.3	--	--	1922.6
Other Support	--	--	--	1109.0	--	--	1202.4
Initial Spares	--	--	--	676.3	--	--	720.2
MILCON	148.5	--	--	148.5	158.9	--	158.9
Acq O&M	0.0	--	--	0.0	0.0	--	0.0
Total	10751.3	--	--	10751.3	11834.8	--	11834.8

Cost Notes

Program office estimate completed in November 2009 . This estimate was quantified at the 90% confidence level.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB	Current Estimate
RDT&E	3	0	3
Procurement	388	0	388
Total	391	0	391

Quantity Notes

Procurement quantity is the number of Reaper aircraft. Ground Control Stations and other equipment costs are included, but not used as a unit of measure.

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2011 President's Budget / December 2009 SAR (TY\$ M)									
Appropriation	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
RDT&E	238.0	102.8	125.4	111.6	77.0	23.2	20.3	111.6	809.9
Procurement	1600.5	544.5	1188.5	1279.2	1353.6	1177.5	1171.9	2550.3	10866.0
MILCON	44.5	2.7	11.7	50.0	50.0	0.0	0.0	0.0	158.9
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2011 Total	1883.0	650.0	1325.6	1440.8	1480.6	1200.7	1192.2	2661.9	11834.8
	--	--	--	--	--	--	--	--	--

Quantity Summary										
FY 2011 President's Budget / December 2009 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
Development	3	0	0	0	0	0	0	0	0	3
Production	0	76	24	48	48	48	48	48	48	388
PB 2011 Total	3	76	24	48	48	48	48	48	48	391
	--	--	--	--	--	--	--	--	--	--

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2002	--	--	--	--	--	--	7.8
2003	--	--	--	--	--	--	12.8
2004	--	--	--	--	--	--	20.9
2005	--	--	--	--	--	--	56.8
2006	--	--	--	--	--	--	10.1
2007	--	--	--	--	--	--	34.0
2008	--	--	--	--	--	--	55.9
2009	--	--	--	--	--	--	39.7
2010	--	--	--	--	--	--	102.8
2011	--	--	--	--	--	--	125.4
2012	--	--	--	--	--	--	111.6
2013	--	--	--	--	--	--	77.0
2014	--	--	--	--	--	--	23.2
2015	--	--	--	--	--	--	20.3
2016	--	--	--	--	--	--	61.3
2017	--	--	--	--	--	--	50.3
Subtotal	3	--	--	--	--	--	809.9

Annual Funding 3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2002	--	--	--	--	--	--	8.9
2003	--	--	--	--	--	--	14.4
2004	--	--	--	--	--	--	22.9
2005	--	--	--	--	--	--	60.7
2006	--	--	--	--	--	--	10.5
2007	--	--	--	--	--	--	34.4
2008	--	--	--	--	--	--	55.5
2009	--	--	--	--	--	--	38.9
2010	--	--	--	--	--	--	99.6
2011	--	--	--	--	--	--	120.0
2012	--	--	--	--	--	--	105.0
2013	--	--	--	--	--	--	71.3
2014	--	--	--	--	--	--	21.1
2015	--	--	--	--	--	--	18.2
2016	--	--	--	--	--	--	53.9
2017	--	--	--	--	--	--	43.5
Subtotal	3	--	--	--	--	--	778.8

FY 2002 RDT&E includes \$7.8M (TY\$) of Defense Emergency Response Funds (DERF)

RDT&E includes Increment I Block I and Block 5 costs.

Increment II is not included.

Annual Funding								
3010 Procurement Aircraft Procurement, Air Force								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2002	4	60.4	--	--	60.4	--	60.4	
2003	4	36.8	--	--	36.8	--	36.8	
2004	5	65.9	1.8	--	67.7	2.8	70.5	
2005	5	81.2	6.8	--	88.0	5.3	93.3	
2006	2	97.7	7.4	--	105.1	4.8	109.9	
2007	12	138.7	21.3	--	160.0	151.6	311.6	
2008	20	196.3	84.9	--	281.2	110.3	391.5	
2009	24	268.7	82.4	--	351.1	175.4	526.5	
2010	24	336.6	55.6	--	392.2	152.3	544.5	
2011	48	729.6	124.4	--	854.0	334.5	1188.5	
2012	48	705.7	278.5	--	984.2	295.0	1279.2	
2013	48	722.8	371.6	--	1094.4	259.2	1353.6	
2014	48	721.2	299.3	--	1020.5	157.0	1177.5	
2015	48	738.8	277.6	--	1016.4	155.5	1171.9	
2016	48	707.8	278.8	--	986.6	100.5	1087.1	
2017	--	--	260.7	--	260.7	4.2	264.9	
2018	--	--	230.0	--	230.0	3.8	233.8	
2019	--	--	182.6	--	182.6	2.7	185.3	
2020	--	--	174.4	--	174.4	2.5	176.9	
2021	--	--	174.4	--	174.4	2.5	176.9	
2022	--	--	108.4	--	108.4	1.0	109.4	
2023	--	--	107.4	--	107.4	1.1	108.5	
2024	--	--	102.3	--	102.3	0.4	102.7	
2025	--	--	102.1	--	102.1	0.1	102.2	
2026	--	--	2.5	--	2.5	0.1	2.6	
Subtotal	388	5608.2	3335.2	--	8943.4	1922.6	10866.0	

Annual Funding 3010 Procurement Aircraft Procurement, Air Force							
Fiscal Year	Quantity	BY 2008 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2002	4	68.0	--	--	68.0	--	68.0
2003	4	40.8	--	--	40.8	--	40.8
2004	5	71.1	1.9	--	73.0	3.1	76.1
2005	5	85.2	7.1	--	92.3	5.6	97.9
2006	2	99.9	7.5	--	107.4	4.9	112.3
2007	12	138.1	21.2	--	159.3	151.0	310.3
2008	20	192.5	83.3	--	275.8	108.2	384.0
2009	24	259.8	79.7	--	339.5	169.5	509.0
2010	24	320.5	52.9	--	373.4	145.1	518.5
2011	48	683.6	116.6	--	800.2	313.4	1113.6
2012	48	650.2	256.7	--	906.9	271.8	1178.7
2013	48	654.9	336.6	--	991.5	234.9	1226.4
2014	48	642.5	266.6	--	909.1	139.9	1049.0
2015	48	647.2	243.2	--	890.4	136.2	1026.6
2016	48	609.7	240.1	--	849.8	86.6	936.4
2017	--	--	220.8	--	220.8	3.6	224.4
2018	--	--	191.5	--	191.5	3.2	194.7
2019	--	--	149.5	--	149.5	2.2	151.7
2020	--	--	140.4	--	140.4	2.0	142.4
2021	--	--	138.1	--	138.1	2.0	140.1
2022	--	--	84.4	--	84.4	0.8	85.2
2023	--	--	82.3	--	82.3	0.8	83.1
2024	--	--	77.0	--	77.0	0.3	77.3
2025	--	--	75.5	--	75.5	0.1	75.6
2026	--	--	1.8	--	1.8	0.1	1.9
Subtotal	388	5164.0	2874.7	--	8038.7	1785.3	9824.0

Procurement includes aircraft, sensors, Ground Control Stations, Predator Primary Satellite Links and support elements. Estimate includes 307 Airborne Signals Intelligence Payload 2C (ASIP-2C) sensors from FY 2012-2025. ASIP-2C is procured as alternate mission equipment and included in non-end item flyaway.

Non-end item recurring flyaway includes retrofit and ASIP-2C sensors requirements. Retrofits include Block I to Block 5 depot and field retrofits, Multi-Spectral Targeting System-B retrofits, and GCS retrofits.

FY 2002 Procurement includes \$29.1M (TY\$) of Defense Emergency Response Funds (DERF)

Organic Depot Activation costs are not included

Annual Funding 3300 MILCON Military Construction, Air Force	
Fiscal Year	TY \$M
	Total Program
2009	44.5
2010	2.7
2011	11.7
2012	50.0
2013	50.0
Subtotal	158.9

Annual Funding 3300 MILCON Military Construction, Air Force	
Fiscal Year	BY 2008 \$M
	Total Program
2009	43.1
2010	2.6
2011	11.0
2012	46.3
2013	45.5
Subtotal	148.5

Low Rate Initial Production

There is no LRIP quantity for this program at this time.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost \$M	Description
Italy	11/20/2008	6	175.3	Purchase of six aircraft and assorted support equipment
United Kingdom	2/14/2007	6	189.2	Purchase of six aircraft and assorted support equipment

Notes

Nuclear Costs

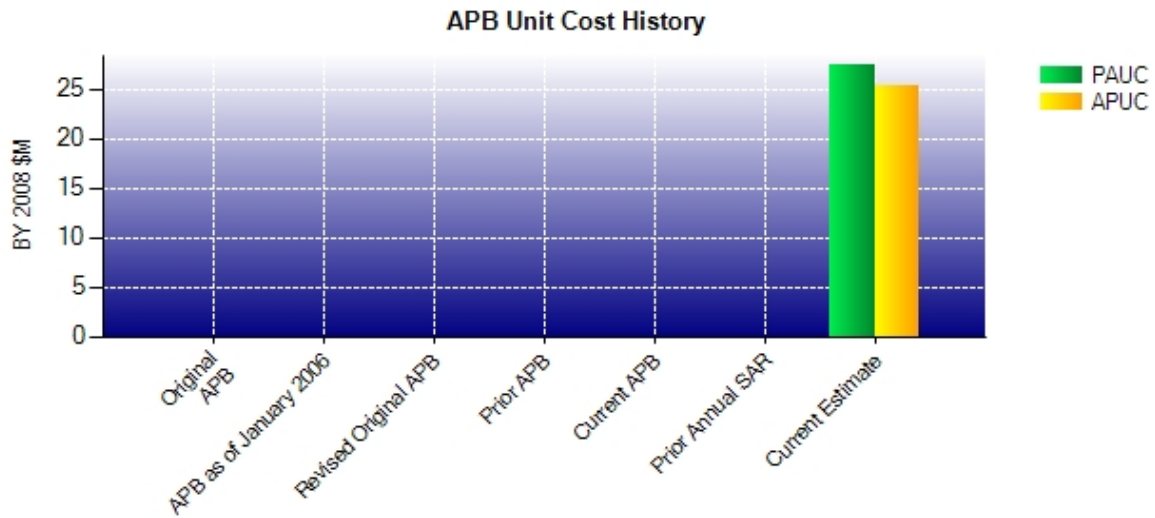
None

Unit Cost

Unit Cost Report

Item	BY 2008 \$M	BY 2008 \$M	% Change
	Current UCR Baseline	Current Estimate (Dec 2009 SAR)	
Program Acquisition Unit Cost			
Cost	--	10751.3	
Quantity	--	391	
Unit Cost	--	27.497	--
Average Procurement Unit Cost			
Cost	--	9824.0	
Quantity	--	388	
Unit Cost	--	25.320	--

Unit Cost History



Item	Date	BY 2008 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	N/A	N/A	N/A	N/A	N/A
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	N/A	N/A	N/A	N/A	N/A
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	Dec 2009	27.497	25.320	30.268	28.005

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
30.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.268

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
28.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	28.005

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	N/A	Feb 2004	Feb 2004
Milestone C	N/A	N/A	Feb 2008	Feb 2008
IOC	N/A	N/A	N/A	N/A
Total Cost (TY \$M)	N/A	N/A	11834.8	11834.8
Total Quantity	N/A	N/A	391	391
PAUC	N/A	N/A	30.268	30.268

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	809.9	10866.0	158.9	11834.8
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Total Changes	--	--	--	--
Current Estimate	809.9	10866.0	158.9	11834.8

Summary BY 2008 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	778.8	9824.0	148.5	10751.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Total Changes	--	--	--	--
Current Estimate	778.8	9824.0	148.5	10751.3

Initial SAR - Above variances (if any) reflect changes since the SAR Baseline/APB.

SAR Baseline Reference: FY 2011 President's Budget dated February 1, 2010

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: Reaper System Development and Demonstration
Contractor: General Atomics Aeronautical Systems, Inc
Contractor Location: San Diego, CA 92064
Contract Number: F33657-02-G-4035/23
Contract Type: Cost Plus Incentive Fee (CPIF)
Award Date: March 30, 2005
Definitization Date: March 30, 2005

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
68.2	N/A	N/A	82.1	N/A	N/A	78.2	77.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	-1.0	-4.0
Previous Cumulative Variances	--	--
Net Change	-1.0	-4.0

Cost and Schedule Variance Explanations

General Contract Variance Explanation

The net unfavorable schedule variance of \$4.0M is driven by last year's operational surge effort which led to a reprioritization of various tasks and resource availability/issues.

The net unfavorable cost variance of \$1.0M is a result of additional unplanned cost related to Air Worthiness certification.

Estimated completion for this contract is Dec 2010.

Notes

The difference between Initial and Current Contract Price is due to contract modifications necessitated by the addition of maintenance Technical Orders and surge related tasks.

Contractor Earned Value Management System is undergoing validation by the Defense Contract Management Agency (DCMA). The Program Office is evaluating recent communications with the contractor to assess the current performance, cost and schedule variances, remaining risks, and an estimate to complete.

This contract is 90% complete and will no longer be reported.

Contract Identification

Appropriation: RDT&E
Contract Name: MQ-9 Interim Combat Capability (ICC)
Contractor: General Atomics Aeronautical System Inc
Contractor Location: San Diego, CA 92127
Contract Number: F33657-02-G-4035/30
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: April 29, 2004
Definitization Date: March 24, 2005

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
48.4	N/A	N/A	77.0	N/A	N/A	68.6	67.3	

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/31/2009)	-1.2	-2.2
Previous Cumulative Variances	--	--
Net Change	-1.2	-2.2

Cost and Schedule Variance Explanations**General Contract Variance Explanation**

The net unfavorable cost and schedule variance is due to high capacity starter-generator system flight test technical issues and vendor test lab availability, Federal Aviation Administration guidance that significantly increased scope of engine type certification beyond original estimates and additional testing.

Notes

The difference between Initial and Current Contract Price is due to Engineering Change Proposals (ECPs) and cost overruns.

Contractor Earned Value Management System is undergoing validation by the Defense Contract Management Agency (DCMA). The Program Office is evaluating recent communications with the contractor to assess the current performance, cost and schedule variances, remaining risks, and an estimate to complete.

This contract is over 90% complete and will no longer be reported.

Contract Identification

Appropriation: Procurement
Contract Name: MQ-9 Spares
Contractor: General Atomics Aeronautical System Inc
Contractor Location: San Diego, CA 92127
Contract Number: FA8620-05-G-3028/34
Contract Type: Firm Fixed Price (FFP)
Award Date: August 31, 2007
Definitization Date: June 04, 2009

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
61.4	N/A	N/A	80.9	N/A	N/A	80.9	80.9	

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

The difference between Initial and Current Price is due to additional Overseas Contingency Operation (OCO) spares and support equipment requirements.

Contract Identification

Appropriation: Procurement
Contract Name: GWOT Aircraft
Contractor: General Atomics Aeronautical Systems, Inc
Contractor Location: San Diego, CA 92064
Contract Number: FA8620-05-G-3028/50
Contract Type: Firm Fixed Price (FFP)
Award Date: November 26, 2008
Definitization Date: January 04, 2010

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
53.0	N/A	16	242.3	N/A	40	242.3	242.3

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP) contract.

Notes

The difference between Initial and Current Price is due to a quantity change.

Contract Identification

Appropriation: Procurement
Contract Name: Multi-spectral Targeting System 2009 Production, Spares, Retrofits, And Containers
Contractor: Raytheon Company
Contractor Location: McKinney, TX 75069
Contract Number: FA8620-06-G-4041/8
Contract Type: Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)
Award Date: September 17, 2008
Definitization Date: February 26, 2010

Contract Price								
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)		
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager	
25.4	N/A	N/A	76.2	N/A	N/A	76.2	76.2	

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP/CPFF) contract.

Notes

The difference between initial and current contract price is due to contract modifications for additional lot buys.

Contract Identification

Appropriation: Procurement
Contract Name: Multi-spectral Targeting System Production and Modification
Contractor: Raytheon Company
Contractor Location: McKinney, TX 75069
Contract Number: FA8620-06-G-4041/10
Contract Type: Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF)
Award Date: July 23, 2009
Definitization Date:

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
87.3	N/A	N/A	119.7	N/A	N/A	119.7	119.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to

Cost and Schedule Variance Explanations

Cost and Schedule Variance reporting is not required on this (FFP/CPFF) contract.

Notes

The difference between Initial and Current Contract Price is due to quantity increases as the result of exercising contract options in support of OCO requirements.

This contract is not yet definitized.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	1	1	3	33.33%
Production	45	44	388	11.34%
Total Program Quantity Delivered	46	45	391	11.51%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	11834.8	Years Appropriated	9
Expended to Date	936.5	Percent Years Appropriated	36.00%
Percent Expended	7.91%	Appropriated to Date	2533.0
Total Funding Years	25	Percent Appropriated	21.40%

Operating and Support Cost

Assumptions and Ground Rules

Program Office estimated is dated November 2009.

The O&S estimate includes all Cost Analysis Improvement Group (CAIG) elements – Unit Personnel, Unit Operations, Maintenance, Sustaining Support, Continuing System Improvements, and Indirect Support. The Reaper has been flying operations since 2002. Historical costs are the primary basis of estimate (BOE), and utilize monthly Contractor Logistics Support (CLS) cost reports, Air Force Total Ownership Cost (AFTOC) actuals, and other data sources. Future costs are based on flying hour projects, manpower projections, the number of operating locations, and applicable rates and factors. Flying hours are based on the number of anticipated Combat Air Patrols (CAPs). Air Combat Command (ACC) defines a rate of 7,300 flying hours per year per CAP. Per ACC, the attrition rate is assumed to be the same as Predator which is one aircraft loss per 18,000 flying hours.

Unit Personnel costs are derived using the AFTOC database to determine an average cost per flying hour for operations, maintenance, and support personnel. Unit Operations cost factors include fuel, training munitions, and TDY costs. Maintenance costs include Operational-level (O-level), Depot-level (D-level), and Government Furnished Equipment (GFE) repair. Sustaining Support is derived from actual costs from previous years captured from AFTOC database, and converted to a cost per flying hour; Continuing System Improvements costs are based on Reliability & Maintainability (R&M) Enhancements and Software Maintenance covered on the CLS contract. Indirect Support costs are based on factors from Air Force Instruction (AFI) 65-503 table A56-1, which were applied against required manpower provided by ACC/A8Q.

O&S costs were split between Increment I (Block I and Block 5) and Increment II (Block 10) starting in FY 2018 by evaluating the configuration of the aircraft in the inventory at the end of each year; All costs were transitioned to Increment II by the end of FY 2026; any associated Increment II costs are not included in this SAR.

Total estimated flying hours for Reaper is 4.6 million over the program life cycle.

Reaper is estimated to fly an additional 1.7 million flying hours than Predator (4.3 million versus 2.6 million flying hours). This higher flying hour program drives down the Reaper cost per flying hour due to the fixed and non-flying hour related costs.

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

Unitized O&S Costs BY2008 \$K			
Cost Element	REAPER		MQ-1 Predator (Antecedent)
	Avg Cost Per Flying Hour		Avg Cost Per Flying Hour
Mission Pay & Allowance		0.804	0.724
Unit Level Consumption		0.174	0.123
Intermediate Maintenance		0.416	0.183
Depot Maintenance		0.000	0.005
Contractor Support		1.097	1.077
Sustaining Support		0.070	0.132
Indirect		0.098	0.211
Other		--	0.580
Total		2.659	3.035

Unitized Cost Comments:

None

Item	Total O&S Cost \$M			
	REAPER			MQ-1 Predator (Antecedent)
	APB Objective/Threshold		Current Estimate	
Base Year	N/A	N/A	11556.5	7899.7
Then Year	N/A	N/A	13416.9	8559.9

Total O&S Cost Comment

None

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2008 \$M):