



Selected Acquisition Report (SAR)

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



MQ-9 UAS REAPER

As of December 31, 2011

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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Program Information

Designation And Nomenclature (Popular Name)

MQ-9 Unmanned Aircraft System (UAS) Reaper

DoD Component

Air Force

Responsible Office

Responsible Office

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References

SAR Baseline (Production Estimate)

FY 2011 President's Budget dated February 1, 2010

Approved APB

Defense Acquisition Authority (DAE) Approved Acquisition Program Baseline (APB) dated February 12, 2012

Mission and Description

Mission:

The MQ-9 Unmanned Aircraft System (UAS) Reaper 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 M-Q 9 offers the commander a choice of weapons including the Hellfire Air-to-Ground Missile, Laser Guided Bombs and Joint Direct Attack Munitions. In the ISR role, the MQ-9'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 MQ-9 is supported and maintained by contractor logistics support personnel under contract and managed by the MQ-9 Program Office (PO).

Description:

An MQ-9 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 MQ-9 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 MQ-9 aircraft can be disassembled and loaded into a container for travel. The GCS is transportable in a C-130 Hercules (or larger) transport aircraft or installed in a fixed facility. The MQ-9 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 GCS conducts the mission via extended communication links.

In March 2006, COMACC (Commander of Air Combat Command) 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 MQ-9 Increment I program is comprised of Block 1 and Block 5 aircraft. This SAR only includes Increment I requirements. An Increment II subprogram will be established in the future to incorporate additional capabilities into the MQ-9 Weapon System. Increment II has a separate Capability Development Document and will have a separate CPD.

The MQ-9's combat potential and demonstrated combat performance fueled the rapid growth of the program. By January 2012, the Air Force contracted for a total of 157 MQ-9s which included 58 added by Congress to accelerate fielding in support of the overseas contingency operations. As of February 29, 2012, General Atomics-Aeronautical Systems Inc. (GA-ASI) delivered 93 of the 404 planned aircraft, 53 of which are operationally active. While the MQ-9 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 MQ-9 has been actively flying combat missions in overseas contingency operations since September 2007.

The program is in concurrent capability development, procurement, combat operations and support. This situation resulted from the MQ-9's urgent beginnings in the weeks after September 11, 2001, its growth as a Hunter-Killer to support overseas contingency operations, and the MQ-9's evolution into the platform of choice for both Intelligence Surveillance and Reconnaissance (ISR) and Hunter-Killer missions.

Executive Summary

Air Combat Command (ACC) stood up six additional MQ-9 Combat Air Patrols (CAPs) since the last SAR, bringing the total number to 22. This brings the total number of combined MQ-1 Unmanned Aircraft System (UAS) Predator and MQ-9 CAPs serving US and Allied warfighters to 57. These CAPs enabled the MQ-9 to accumulate 242,560 cumulative flight hours. The Program Office (PO) remains on track to support the Air Force required fielding of the required 65 CAPs (MQ-1 and MQ-9) by 3Q FY 2014.

Since the last SAR, the MQ-9, along with the MQ-1, achieved the requirement to provide 50 CAPs. This was completed on April 2, 2011, nearly six months ahead of schedule. The PO is on schedule to meet the June 2012 Required Assets Available (RAA) date with only one remaining item; Block 1 integration of electronic technical manuals. The decision was made to postpone the Milestone C from June 2011 to June 2012 to allow additional time to revise the test strategy; conduct first flight of a modified Block 1 aircraft with 904.6 Rev A software, and complete the required Milestone C program documentation. The first modified Block 1 aircraft was delivered to Gray Butte, CA on January 11, 2012, approximately six months ahead of schedule. Ground testing is in progress.

On February 12, 2012 the PO received the signed Acquisition Program Baseline (APB).

The PO initiated a Business Case Analysis (BCA) in November 2009 for the purpose of determining the "best value" long term sustainment strategy. The expected outcome of the BCA is a Performance Based Logistics approach which embraces public and private partnership arrangements. The BCA schedule was accelerated and the final report is due in June 2012 with coordination to follow.

There are no significant software-related issues with this 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"/>
Unit Cost	PAUC	<input type="checkbox"/>
	APUC	<input type="checkbox"/>

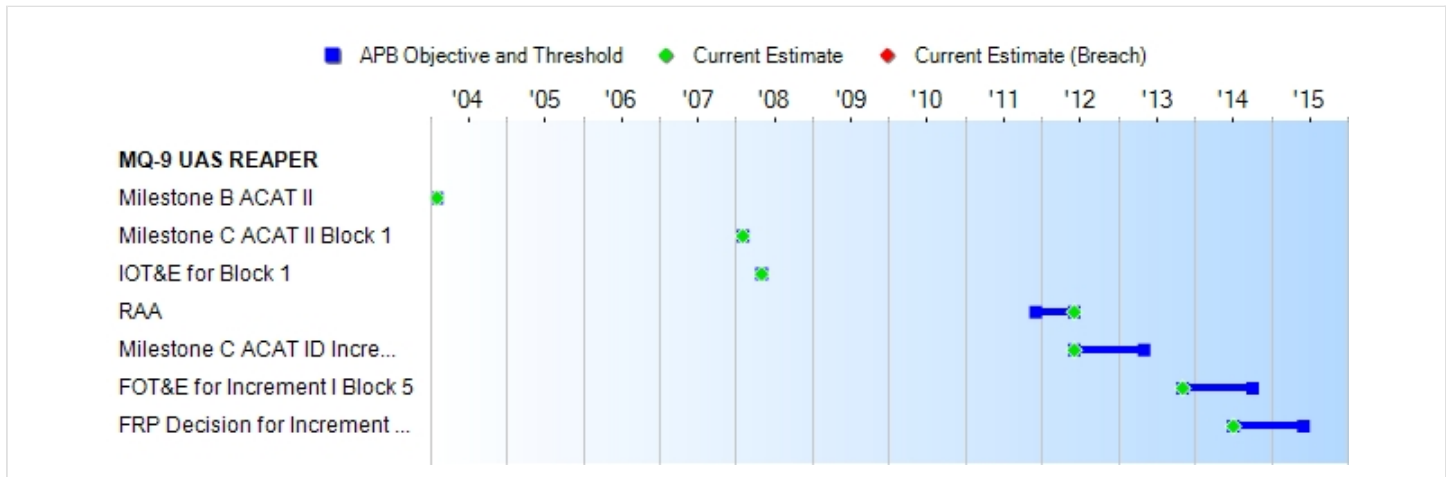
Nunn-McCurdy Breaches**Current UCR Baseline**

PAUC	None
APUC	None

Original UCR Baseline

PAUC	None
APUC	None

Schedule



Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	
Milestone B ACAT II	FEB 2004	FEB 2004	FEB 2004	FEB 2004	
Milestone C ACAT II Block 1	FEB 2008	FEB 2008	FEB 2008	FEB 2008	
IOT&E for Block 1	MAY 2008	MAY 2008	MAY 2008	MAY 2008	
RAA	SEP 2010	DEC 2011	JUN 2012	JUN 2012	(Ch-1)
Milestone C ACAT ID Increment 1, Block 5	MAR 2011	JUN 2012	MAY 2013	JUN 2012	(Ch-1)
FOT&E for Increment I Block 5	NOV 2012	NOV 2013	OCT 2014	NOV 2013	(Ch-1)
FRP Decision for Increment I Block 1 and 5	MAR 2013	JUL 2014	JUN 2015	JUL 2014	(Ch-1)

Acronyms And Abbreviations

ACAT - Acquisition Category
 FOT&E - Follow-On Test and Evaluation
 FRP - Full Rate Production
 IOT&E - Initial Operational Test and Evaluation
 RAA - Required Assets Available

Change Explanations

(Ch-1) The current estimates for RAA and Milestone C ACAT ID Inc 1, Block 5, changed from Jul 2011 to Jun 2012 due to timelines required to complete Milestone C documentation, testing associated with Block 5 capabilities, and reliability metrics/growth program improvements. Due to the delay in Milestone C, FOT&E for Increment I Block 5 changed from Apr 2013 to Nov 2013 and FRP Decision for Increment I Block 1 and 5 changed from Sep 2013 to Jul 2014.

Memo

RAA includes two fixed Ground Control Stations (GCS), two mobile GCSs, six Primary Mission Aircraft Inventory

(PMAI) Block 1 aircraft, technical orders, support equipment, initial and readiness spares packages, and logistics support.

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate
Hunter	The system's capability must allow a targeting solution at the weapon's maximum range.	The system's capability must allow a targeting solution at a direct attack weapon's maximum range	The system's capability must allow a targeting solution at a direct attack weapon's maximum range	DT ongoing for KPP; AFOTEC IOT&E did not evaluate KPP due to system availability; Full KPP evaluation deferred to future FOT&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.	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.	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.	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,	The System must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must	The System must fully support execution of all operational activities identified in the applicable joint and system integrated architectures and the system must	The System must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must	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

<p>and operationally effective information exchanges to enable a Net-Centric military capability.</p>	<p>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 information assurance attributes, data correctness, data</p>	<p>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 IA attributes, data correctness, data availability, and</p>	<p>satisfy the technical requirements for transition to 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 IATO by the DAA, and 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability,</p>		<p>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 information assurance attributes, data correctness, data</p>
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	availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	consistent data processing specified in the applicable joint and system integrated architecture views.	and consistent data processing specified in the applicable joint and system integrated architecture views.		availability, and consistent data processing specified in the applicable joint and system integrated architecture views.
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Requirements Source:

Air Force Requirements for Operational Capabilities Council (AFROCC) Capability Production Document (CPD), dated August 8, 2006, validated by Joint Requirements Oversight Council (JROC) on January 29, 2007. AFROC Memo 07-11-01 dated July 21, 2011.

Acronyms And Abbreviations

AFOTEC - Air Force Operational Test and Evaluation Center
 ATO - Approval to Operate
 DAA - Designated Approval Authority
 DISR - Department of Defense Information Technology Standards Registry
 DT - Developmental Testing
 FOT&E - Follow-On Operational Test and Evaluation
 GIG - Global Information Grid
 IA - Information Assurance
 IATO - Interim Approval to Operate
 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

Change Explanations

None

Track To Budget

General Memo

RDT&E Program Element (PE) 0305205F was shared by the MQ-1 Predator, MQ-9 Reaper and Global Hawk program offices from FY 2002 - FY 2004.

RDT&E PE 0305219F were shared by the MQ-1 Predator and MQ-9 Reaper program office from FY 2005 - FY 2007.

Procurement ICN's PRDTA1 and PRDT01 were shared by the MQ-1 Predator and MQ-9 Reaper program office from FY 2002 - FY 2007.

RDT&E

APPN 3600	BA 07	PE 0205219F	(Air Force)	
	Project 5246	MQ-9 Development and Fielding	(Shared)	
APPN 3600	BA 07	PE 0305205F	(Air Force)	
	Project 4755		(Shared)	(Sunk)
APPN 3600	BA 07	PE 0305219F	(Air Force)	
	Project 5143		(Shared)	(Sunk)

Procurement

APPN 3010	BA 07	PE 0205219F	(Air Force)	
	ICN 000075	Organic Depot Activation	(Shared)	
APPN 3010	BA 06	PE 0205219F	(Air Force)	
	ICN 000999	Initial Spares	(Shared)	
APPN 3010	BA 05	PE 0305205F	(Air Force)	
	ICN PRDT01	Aircraft Modification	(Shared)	(Sunk)
APPN 3010	BA 04	PE 0305205F	(Air Force)	
	ICN PRDTA1	Aircraft Procurement	(Shared)	(Sunk)
APPN 3010	BA 04	PE 0205219F	(Air Force)	

ICN PRDTB1 Aircraft Procurement

APPN 3010 BA 05 PE 0205219F (Air Force)

ICN PRDTB2 Aircraft Modification

MILCON

APPN 3300 BA 01 PE 0205219F (Air Force)

Project BHD000 MQ-9 Operations

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY2008 \$M			BY2008 \$M	TY \$M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	778.8	1005.7	1106.3	1004.1	809.9	1063.2	1063.2
Procurement	9824.0	10402.1	11442.3	10398.9	10866.0	11871.3	11871.3
Flyaway	8038.7	--	--	7905.7	8943.4	--	9059.0
Recurring	8038.7	--	--	7905.7	8943.4	--	9059.0
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	1785.3	--	--	2493.2	1922.6	--	2812.3
Other Support	1109.0	--	--	997.0	1202.4	--	1121.8
Initial Spares	676.3	--	--	1496.2	720.2	--	1690.5
MILCON	148.5	133.5	146.9	133.5	158.9	153.4	153.4
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	10751.3	11541.3	N/A	11536.5	11834.8	13087.9	13087.9

Confidence Level for Current APB Cost 50% - This APB reflects cost and funding data based on the MQ-9 Reaper's April 2011 cost estimate briefed through ASC/FM and SAF/FMC. This cost estimate was quantified at a 50% confidence level. A draft Service Cost Position (SCP) in support of a June 2011 Milestone C was created; however, not formalized due to a delay of Milestone C.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E		3	3
Procurement		388	401
Total		391	404

Procurement quantity is the number of MQ-9 aircraft. Ground Control Stations and other equipment costs are included, but not used as a unit of measure.

Cost and Funding**Funding Summary**

Appropriation and Quantity Summary
FY2013 President's Budget / December 2011 SAR (TY\$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	477.5	126.7	148.0	147.0	110.6	34.7	0.0	18.7	1063.2
Procurement	2831.6	1058.1	920.0	1007.6	1015.8	799.7	783.7	3454.8	11871.3
MILCON	55.6	0.0	0.0	0.0	0.0	0.0	0.0	97.8	153.4
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2013 Total	3364.7	1184.8	1068.0	1154.6	1126.4	834.4	783.7	3571.3	13087.9
PB 2012 Total	3867.6	1317.9	1531.6	1275.7	1246.7	1051.4	836.0	1369.7	12496.6
Delta	-502.9	-133.1	-463.6	-121.1	-120.3	-217.0	-52.3	2201.6	591.3

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	3	0	0	0	0	0	0	0	0	3
Production	0	156	48	24	24	24	24	24	77	401
PB 2013 Total	3	156	48	24	24	24	24	24	77	404
PB 2012 Total	3	156	48	48	48	48	48	0	0	399
Delta	0	0	0	-24	-24	-24	-24	24	77	5

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY\$

3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
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	--	--	--	--	--	--	136.7
2012	--	--	--	--	--	--	126.7
2013	--	--	--	--	--	--	148.0
2014	--	--	--	--	--	--	147.0
2015	--	--	--	--	--	--	110.6
2016	--	--	--	--	--	--	34.7
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	18.7
Subtotal	3	--	--	--	--	--	1063.2

Annual Funding BY\$**3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force**

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 \$M	Non End Item Recurring Flyaway BY 2008 \$M	Non Recurring Flyaway BY 2008 \$M	Total Flyaway BY 2008 \$M	Total Support BY 2008 \$M	Total Program BY 2008 \$M
2002	--	--	--	--	--	--	8.9
2003	--	--	--	--	--	--	14.4
2004	--	--	--	--	--	--	22.9
2005	--	--	--	--	--	--	60.7
2006	--	--	--	--	--	--	10.5
2007	--	--	--	--	--	--	34.4
2008	--	--	--	--	--	--	55.4
2009	--	--	--	--	--	--	38.9
2010	--	--	--	--	--	--	99.3
2011	--	--	--	--	--	--	129.5
2012	--	--	--	--	--	--	117.9
2013	--	--	--	--	--	--	135.4
2014	--	--	--	--	--	--	132.3
2015	--	--	--	--	--	--	97.8
2016	--	--	--	--	--	--	30.1
2017	--	--	--	--	--	--	--
2018	--	--	--	--	--	--	15.7
Subtotal	3	--	--	--	--	--	1004.1

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

Annual Funding TY\$
3010 | Procurement | Aircraft Procurement, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY \$M	Non End Item Recurring Flyaway TY \$M	Non Recurring Flyaway TY \$M	Total Flyaway TY \$M	Total Support TY \$M	Total Program TY \$M
2002	4	60.4	--	--	60.4	--	60.4
2003	4	36.8	--	--	36.8	--	36.8
2004	5	67.7	--	--	67.7	2.8	70.5
2005	5	85.8	2.2	--	88.0	5.3	93.3
2006	2	72.1	33.0	--	105.1	4.8	109.9
2007	12	109.4	50.6	--	160.0	151.6	311.6
2008	28	214.2	51.1	--	265.3	81.0	346.3
2009	24	225.0	133.3	--	358.3	168.6	526.9
2010	24	262.2	105.5	--	367.7	171.6	539.3
2011	48	504.5	101.5	--	606.0	130.6	736.6
2012	48	621.4	106.9	--	728.3	329.8	1058.1
2013	24	417.7	218.1	--	635.8	284.2	920.0
2014	24	405.2	253.5	--	658.7	348.9	1007.6
2015	24	417.0	295.9	--	712.9	302.9	1015.8
2016	24	427.4	208.8	--	636.2	163.5	799.7
2017	24	436.9	226.5	--	663.4	120.3	783.7
2018	24	526.4	377.7	--	904.1	162.2	1066.3
2019	24	556.9	197.0	--	753.9	186.5	940.4
2020	24	580.2	72.8	--	653.0	150.4	803.4
2021	5	250.1	26.7	--	276.8	33.7	310.5
2022	--	141.4	16.9	--	158.3	6.0	164.3
2023	--	106.9	12.8	--	119.7	4.7	124.4
2024	--	16.1	6.2	--	22.3	1.3	23.6
2025	--	1.3	4.2	--	5.5	1.1	6.6
2026	--	--	3.6	--	3.6	0.5	4.1
2027	--	5.3	0.3	--	5.6	--	5.6
2028	--	5.3	0.3	--	5.6	--	5.6
Subtotal	401	6553.6	2505.4	--	9059.0	2812.3	11871.3

Annual Funding BY\$**3010 | Procurement | Aircraft Procurement, Air Force**

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2008 \$M	Non End Item Recurring Flyaway BY 2008 \$M	Non Recurring Flyaway BY 2008 \$M	Total Flyaway BY 2008 \$M	Total Support BY 2008 \$M	Total Program BY 2008 \$M
2002	4	68.0	--	--	68.0	--	68.0
2003	4	40.8	--	--	40.8	--	40.8
2004	5	73.1	--	--	73.1	3.0	76.1
2005	5	90.0	2.3	--	92.3	5.6	97.9
2006	2	73.7	33.7	--	107.4	4.9	112.3
2007	12	108.9	50.4	--	159.3	150.8	310.1
2008	28	209.8	50.1	--	259.9	79.3	339.2
2009	24	216.6	128.4	--	345.0	162.3	507.3
2010	24	247.5	99.6	--	347.1	162.1	509.2
2011	48	468.1	94.2	--	562.3	121.2	683.5
2012	48	566.9	97.5	--	664.4	300.9	965.3
2013	24	374.6	195.7	--	570.3	254.9	825.2
2014	24	357.1	223.3	--	580.4	307.5	887.9
2015	24	361.0	256.1	--	617.1	262.2	879.3
2016	24	363.4	177.6	--	541.0	139.0	680.0
2017	24	364.9	189.3	--	554.2	100.4	654.6
2018	24	431.9	309.9	--	741.8	133.1	874.9
2019	24	448.9	158.8	--	607.7	150.3	758.0
2020	24	459.4	57.6	--	517.0	119.1	636.1
2021	5	194.5	20.7	--	215.2	26.3	241.5
2022	--	108.0	12.9	--	120.9	4.6	125.5
2023	--	80.2	9.7	--	89.9	3.5	93.4
2024	--	11.9	4.5	--	16.4	1.0	17.4
2025	--	0.9	3.1	--	4.0	0.8	4.8
2026	--	--	2.5	--	2.5	0.4	2.9
2027	--	3.7	0.2	--	3.9	--	3.9
2028	--	3.6	0.2	--	3.8	--	3.8
Subtotal	401	5727.4	2178.3	--	7905.7	2493.2	10398.9

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

End-item related costs include aircraft, Multi-spectral Targeting System-B (MTS-B) and government furnished equipment, as well as retrofit costs associated with aircraft and MTS-B.

Non-end item recurring flyaway costs include retrofit, Ground Control Stations (GCS), communications and Airborne Signals Intelligence Payload 2C (ASIP-2C) sensors requirements. Retrofits include GCS and other miscellaneous communications and sensor retrofits.

Cost Quantity Information**3010 | Procurement | Aircraft Procurement, Air Force**

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2008 \$M
2002	4	68.0
2003	4	40.8
2004	5	91.2
2005	5	120.2
2006	2	85.8
2007	12	181.5
2008	28	379.3
2009	24	361.9
2010	24	372.6
2011	48	712.4
2012	48	741.1
2013	24	310.1
2014	24	286.2
2015	24	300.4
2016	24	303.6
2017	24	306.9
2018	24	321.9
2019	24	330.6
2020	24	339.6
2021	5	73.3
2022	--	--
2023	--	--
2024	--	--
2025	--	--
2026	--	--
2027	--	--
2028	--	--
Subtotal	401	5727.4

Annual Funding TY\$
3300 | MILCON | Military Construction, Air
Force

Fiscal Year	Total Program TY \$M
2009	44.5
2010	2.7
2011	8.4
2012	--
2013	--
2014	--
2015	--
2016	--
2017	--
2018	97.8
Subtotal	153.4

Annual Funding BY\$
3300 | MILCON | Military Construction, Air Force

Fiscal Year	Total Program BY 2008 \$M
2009	42.9
2010	2.6
2011	7.8
2012	--
2013	--
2014	--
2015	--
2016	--
2017	--
2018	80.2
Subtotal	133.5

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	Memo
Italy	11/20/2008	6	175.3	Purchase of six aircraft, three Mobile Ground Control Stations, and assorted support equipment.
United Kingdom	10/4/2007	4	62.8	Purchase of four aircraft, one Mobile Ground Control Station, and spares.
United Kingdom	2/14/2007	2	184.7	Purchase of two aircraft, two Mobile Ground Control Stations, and assorted support equipment.

As noted in the table above, Italy's Letter of Offer and Acceptance (LOA), dated November 20, 2008, is a Foreign Military Sales (FMS) transaction, agreement number IT-DSAG, and will be in the operations and sustainment phase in July 2012 after aircraft #5 and #6 deliver. The Italian Air Force deployed two MQ-9s, one Ground Control Station and associated spares to Sigonella, Sicily supporting North Atlantic Treaty Organization (NATO) operations.

As noted in the table above, the United Kingdom LOA, dated February 14, 2007, is an FMS transaction, agreement number UK-D-SMI, and is in the operations and sustainment phase. The United Kingdom LOA, dated October 4, 2007, is an FMS transaction, agreement number UK-D-SMJ, and is in the operations and sustainment phase. United Kingdom signed another LOA, on November 10, 2011, to acquire five additional MQ-9s and four additional Mobile Ground Control Stations; however, these are not on contract and therefore not included in the table above.

The Program Office (PO) is responding to a Letter of Request (LOR) from Australia for pricing and availability for MQ-9 capability. In addition, the PO received an official LOR from Germany for three MQ-9s and four Mobile Ground Control Stations with a June 2014 operational need date.

The PO received a request to validate or update the previously submitted pricing for MQ-1 and MQ-9 capability for Turkey. At this time this request is not an indication of forward movement of Turkey's draft LOA.

Nuclear Cost

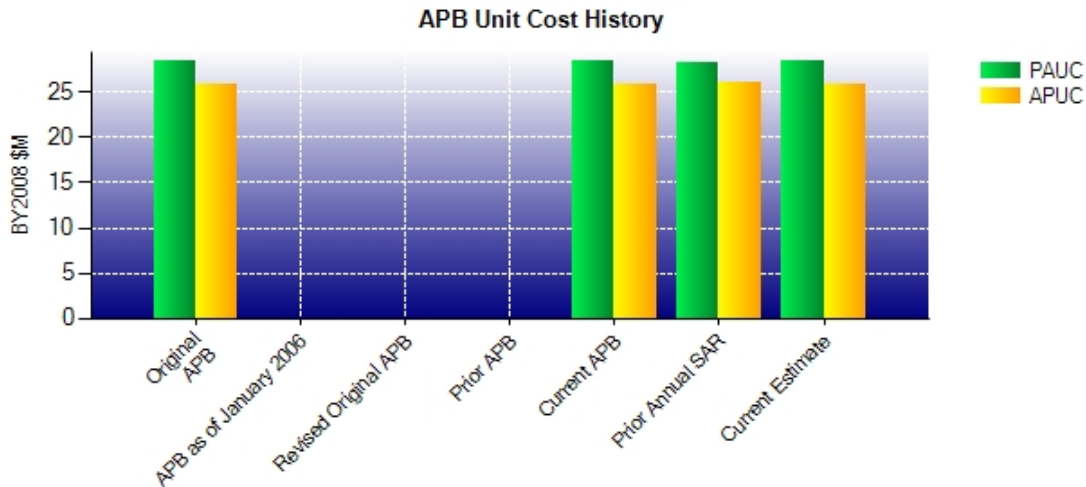
None

Unit Cost**Unit Cost Report**

	BY2008 \$M	BY2008 \$M	
Unit Cost	Current UCR Baseline (FEB 2012 APB)	Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	11541.3	11536.5	
Quantity	404	404	
Unit Cost	28.568	28.556	-0.04
Average Procurement Unit Cost (APUC)			
Cost	10402.1	10398.9	
Quantity	401	401	
Unit Cost	25.940	25.932	-0.03

	BY2008 \$M	BY2008 \$M	
Unit Cost	Original UCR Baseline (FEB 2012 APB)	Current Estimate (DEC 2011 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	11541.3	11536.5	
Quantity	404	404	
Unit Cost	28.568	28.556	-0.04
Average Procurement Unit Cost (APUC)			
Cost	10402.1	10398.9	
Quantity	401	401	
Unit Cost	25.940	25.932	-0.03

Unit Cost History



	Date	BY2008 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	FEB 2012	28.568	25.940	32.396	29.604
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	FEB 2012	28.568	25.940	32.396	29.604
Prior Annual SAR	DEC 2010	28.359	26.027	31.320	28.879
Current Estimate	DEC 2011	28.556	25.932	32.396	29.604

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
30.268	0.328	-0.473	0.181	0.219	-0.261	0.000	2.134	2.128	32.396

Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
28.005	0.307	-0.403	0.182	0.000	-0.637	0.000	2.150	1.599	29.604

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	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	JUN 2012
Total Cost (TY \$M)	N/A	N/A	11834.8	13087.9
Total Quantity	N/A	N/A	391	404
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	30.268	32.396

Schedule Milestone C above reflects the ACAT II Block 1 Milestone C decision. The ACAT ID Increment 1, Block 5 Milestone C is scheduled for June 2012.

Schedule Milestone Required Assets Available (RAA) is used in lieu of Initial Operating Capability (IOC).

Cost Variance**Cost Variance Summary**

Summary Then Year \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	809.9	10866.0	158.9	11834.8
Previous Changes				
Economic	-0.6	-18.6	+0.3	-18.9
Quantity	--	+119.6	--	+119.6
Schedule	--	-14.9	--	-14.9
Engineering	+23.3	--	--	+23.3
Estimating	+71.4	-198.6	-2.5	-129.7
Other	--	--	--	--
Support	--	+682.4	--	+682.4
Subtotal	+94.1	+569.9	-2.2	+661.8
Current Changes				
Economic	+7.7	+141.7	+1.9	+151.3
Quantity	--	+82.7	--	+82.7
Schedule	--	+88.0	--	+88.0
Engineering	+65.2	--	--	+65.2
Estimating	+86.3	-56.8	-5.2	+24.3
Other	--	--	--	--
Support	--	+179.8	--	+179.8
Subtotal	+159.2	+435.4	-3.3	+591.3
Total Changes	+253.3	+1005.3	-5.5	+1253.1
CE - Cost Variance	1063.2	11871.3	153.4	13087.9
CE - Cost & Funding	1063.2	11871.3	153.4	13087.9

Summary Base Year 2008 \$M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	778.8	9824.0	148.5	10751.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	+103.2	--	+103.2
Schedule	--	--	--	--
Engineering	+21.7	--	--	+21.7
Estimating	+65.4	-213.6	-5.8	-154.0
Other	--	--	--	--
Support	--	+593.1	--	+593.1
Subtotal	+87.1	+482.7	-5.8	+564.0
Current Changes				
Economic	--	--	--	--
Quantity	--	+64.3	--	+64.3
Schedule	--	-0.7	--	-0.7
Engineering	+59.7	--	--	+59.7
Estimating	+78.5	-86.2	-9.2	-16.9
Other	--	--	--	--
Support	--	+114.8	--	+114.8
Subtotal	+138.2	+92.2	-9.2	+221.2
Total Changes	+225.3	+574.9	-15.0	+785.2
CE - Cost Variance	1004.1	10398.9	133.5	11536.5
CE - Cost & Funding	1004.1	10398.9	133.5	11536.5

Previous Estimate: December 2010

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+7.7
Adjustment for current and prior escalation. (Estimating)	-3.2	-3.4
Increase due to System Development and Demonstration Increment I Bridge contract and additional requirements for reliability and maintainability. (Engineering)	+59.7	+65.2
Increase due to Air Force funding Counter Improvised Explosive Device (IED) and Unmanned Air Vehicle Command and Control Initiative. (Estimating)	+28.2	+30.5
Revised estimate for Ka band Migration. (Estimating)	+33.1	+36.4
Increase due to additional funding for other government costs associated with extended development period of performance. (Estimating)	+20.4	+22.8
RDT&E Subtotal	+138.2	+159.2

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+141.7
Total Quantity variance resulting from an increase of 5 aircraft from 396 to 401. (Subtotal)	+53.8	+69.2
Quantity variance resulting from an increase of 5 aircraft from 396 to 401. (Quantity)	(+64.3)	(+82.7)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(-0.7)	(-0.9)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(-9.8)	(-12.6)
Increase due to stretch-out of procurement buy profile from FY 2002 - FY 2017 to FY 2002 - FY 2021. (Schedule)	0.0	+88.9
Adjustment for current and prior escalation. (Estimating)	-23.6	-25.3
Refined estimate to incorporate change to the projected learning curve. (Estimating)	-52.8	-18.9
Adjustment for current and prior escalation. (Support)	-10.5	-11.5
Increase in Other Support due to funding for organic depot activation. (Support)	+227.1	+276.7
Decrease in Initial Spares due to Congressional reduction in FY 2011. (Support)	-101.8	-85.4
Procurement Subtotal	+92.2	+435.4

(QR) Quantity Related

MILCON	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+1.9
Adjustment for current and prior escalation. (Estimating)	-0.4	-0.4
Adjustment to reflect the application of new out year escalation indices. (Estimating)	-5.8	-1.5
Decrease due to Congressional Marks. (Estimating)	-3.0	-3.3
MILCON Subtotal	-9.2	-3.3

Contracts

Appropriation: RDT&E

Contract Name **Block 50 Ground Control Station (GCS) Modernization**
Contractor General Atomics Aeronautical Systems, Inc.
Contractor Location San Diego, CA 92065
Contract Number, Type FA8620-05-G-3028/30, CPFF
Award Date March 25, 2010
Definitization Date March 25, 2010

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
17.2	N/A	N/A	83.7	N/A	N/A	88.8	88.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-7.7	-8.1
Previous Cumulative Variances	-3.1	-2.4
Net Change	-4.6	-5.7

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to engineering analysis associated with the Critical Design Review (CDR); delays in information assurance certification and accreditation causing additional design iterations, and design efforts for the System Requirements Review (SRR), Preliminary Design Review (PDR), and CDR.

The unfavorable net change in the schedule variance is due to delayed subcontractor efforts on Auxiliary Software Design; delays in approval of the Modified Airworthiness Certification criteria, and delays in receiving subcontractor invoices. Additional delays are due to lack of information assurance requirements needed to build rule sets for the cross domain solution.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to content changes i.e. engineering change orders and contract modifications.

The current contracted completion date of July 2012 is expected to extend to December 2012.

Appropriation: RDT&E

Contract Name MQ-9 System Development and Demonstration Bridge DO 49
Contractor General Atomics Aeronautical Systems Inc
Contractor Location San Diego, CA 92127-1713
Contract Number, Type FA8620-05-G-3028/49, CPIF
Award Date July 17, 2009
Definitization Date July 17, 2009

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
39.3	N/A	N/A	62.3	N/A	N/A	80.0	83.3

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-5.2	-4.5
Previous Cumulative Variances	-0.1	-5.3
Net Change	-5.1	+0.8

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to the decision to accelerate activities associated with the retrofit of a first article Block 5 MQ-9. In addition, upfront costs required to re-align environmental testing activities under the prime contractor versus current arrangement with a subcontractor caused a short-term unfavorable cost variance. The remaining unfavorable cost variance is attributed to an updated forecast of the required iterations needed to complete activities on the Block 5 MQ-9 forward avionics bay redesign.

The favorable net change in the schedule variance is due to the decision to accelerate activities associated with the retrofit of a first article Block 5 MQ-9.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to contract overruns and rebaselining.

Appropriation: Procurement

Contract Name **Multi-spectral Targeting System Production and Modification**
 Contractor Raytheon Company
 Contractor Location McKinney, TX 75069
 Contract Number, Type FA8620-06-G-4041/10, FFP/CPFF
 Award Date July 23, 2009
 Definitization Date October 07, 2010

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	128.1	N/A	N/A	128.1	128.1

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost And Schedule Variance Explanations

None

Contract Comments

The difference between the initial contract price target and the current contract price target is due to quantity increases as the result of exercising contract options in support of Overseas Contingency Operation requirements.

This contract is more than 90% complete; therefore, this is the final report for this contract.

Cost and Schedule reporting is not required on the FFP portion of this contract. The value of the CPFF portion of the contract is below the \$20M threshold for Earned Value Management (EVM) reporting. In lieu of EVM, the Program Office is using a Performance Cost Report to monitor contract expenditures against the budget.

Appropriation: Procurement

Contract Name MQ-9 FY10 Production Effort
Contractor General Atomics Aeronautical Systems, Inc.
Contractor Location San Diego, CA 92064
Contract Number, Type FA8620-10-G-3038/28, FFP
Award Date February 03, 2011
Definitization Date February 03, 2011

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
148.3	N/A	24	198.4	N/A	32	198.4	198.4

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

The difference between the initial contract price target and the current contract price target is due to exercise of contract options for additional units.

Appropriation: Procurement

Contract Name MQ-9 FY09/10 Spares and Support Equipment
Contractor General Atomics - Aeronautical Systems Inc.
Contractor Location San Diego, CA 92127
Contract Number, Type FA8620-10-G-3038/35, FFP
Award Date September 27, 2011
Definitization Date September 27, 2011

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
120.6	N/A	N/A	120.6	N/A	N/A	120.6	120.6

Cost And Schedule Variance Explanations

Cost and Schedule variance reporting is not required on this FFP contract.

Contract Comments

This is the first time this contract is being reported.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	3	3	3	100.00%
Production	92	90	401	22.44%
Total Program Quantities Delivered	95	93	404	23.02%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	13087.9	Years Appropriated	11
Expenditures To Date	1865.0	Percent Years Appropriated	40.74%
Percent Expended	14.25%	Appropriated to Date	4549.5
Total Funding Years	27	Percent Appropriated	34.76%

As of February 29, 2012, actual production deliveries were less than planned due to production process issues. Issues have been corrected and deliveries are expected to be back on track by March 2012.

Operating and Support Cost

Assumptions And Ground Rules

The Operating and Support (O&S) costs are from the Program Office (PO) estimate dated November 2011. The Contractor Logistics Support (CLS) costs are based upon approximately nine years of actual cost history.

The O&S estimate includes all Cost Analysis Improvement Group elements – Unit Personnel, Unit Operations, Maintenance, Sustaining Support, Continuing System Improvements, and Indirect Support. The MQ-9 UAS Reaper has been flying operations since 2002. Historical costs are attained from monthly 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 range of 5,840 - 8,760 flying hours per year per CAP. The attrition rate is based upon the official Air Force Studies and Analysis MQ-9 UAS Reaper attrition model. Quantity of aircraft per CAP will continue to vary based on mission requirements and future operations.

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 temporary duty costs. Maintenance costs include Operational-level (O-level), Depot-level (D-level), and Government Furnished Equipment (GFE) repair. Sustaining Support included D-level sustaining engineering and program management and system specific training derived from actual costs from previous years captured from the AFTOC database, and converted to a cost per flying hour. Continuing System Improvements costs include Reliability & Maintainability (R&M) Enhancements and Software Maintenance supported via the CLS contract. Indirect Support costs are based on factors from Air Force Instruction (AFI) 65-503 table A56-1, which were applied against manpower projections provided by Air Combat Command. Based on this information, the average cost per flying hour for an MQ-9 UAS Reaper is \$3.253K and the average number of flying hours per tail per year is 918.7. In order to convert to a cost per tail the PO multiplied the cost per flying hour by the average number of flying hours per tail per year, totaling \$2.988M.

The cost per flying hour increased from the December 2010 SAR due to increases in CLS infrastructure, mishap repair, and projected Block 5 aircraft depot repair costs. The increase in infrastructure costs is a result of increased field engineering support requests, technical order maintenance changes, software maintenance, and other support activities resulting from the planned fielding of additional aircraft and ground control station configurations. The mishap repair costs were omitted from last year's SAR. The mishap repair costs are required to support continental United States and outside continental United States aircraft incidents. The increase in depot repair costs results from the projected additional cost of the Block 5 aircraft configuration.

The PO received the MQ-9 Manpower Estimate Report (MER) and updated the O&S estimate with the Air Force Cost Analysis Agency and Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation. The O&S estimate will be updated as the program proceeds to the milestone C decision.

The total Operating and Support cost was derived by multiplying the average cost per flying hour for each cost element category (totaling \$3.253K) by the total flying hours of the program (15,960,264 hours). The expected operational life of the MQ-9 system is 43 years.

Disposal costs for the MQ-9 UAS Reaper are not known at this time.

Costs BY2008 \$M		
Cost Element	MQ-9 UAS REAPER Avg Annual Cost per Aircraft	MQ-1 Predator Avg Annual Cost per Aircraft
Unit-Level Manpower	0.712	0.293
Unit Operations	0.199	0.050
Maintenance	0.931	0.511
Sustaining Support	0.770	0.053
Continuing System Improvements	0.062	0.000
Indirect Support	0.314	0.303
Other	--	--
Total Unitized Cost (Base Year 2008 \$)	2.988	1.210

Total O&S Costs \$M	MQ-9 UAS REAPER	MQ-1 Predator
Base Year	51920.9	7793.7
Then Year	77048.6	8448.6