RCS: DD-A&T(Q&A)823-420

MQ-1C Gray Eagle Unmanned Aircraft System (MQ-1C Gray Eagle)

As of FY 2021 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

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)
USD(A&S) - Under Secretary of Defense (Acquisition and Sustainment)

Program Information

Program Name
MQ-1C Gray Eagle Unmanned Aircraft System (MQ-1C Gray Eagle)

DoD Component
Army

Responsible Office

COL Joseph Anderson
Building 5681 Wood Rd
Redstone Arsenal, AL 35898

joseph.s.anderson8.mil@mail.mil

Phone: 256-313-5327
Fax: 256-313-5445
DSN Phone: 897-5327
DSN Fax: 897-5445
Date Assigned: September 14, 2018

References

SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 25, 2011

Approved APB

Army Acquisition Executive (AAE) Approved Acquisition Program Baseline (APB) dated December 20, 2017

Mission and Description

The MQ-1C Gray Eagle Unmanned Aircraft System (MQ-1C Gray Eagle) provides the Commander a dedicated, assured, long endurance, multi-mission UAS at the strategic, operational, and tactical echelons. The MQ-1C Gray Eagle provides reconnaissance, surveillance, target acquisition, command and control, communications relay, signals intelligence, electronic warfare, attack, battle damage assessment, and manned-unmanned teaming capabilities. Fifteen Gray Eagle Warfighting Companies are assigned: 11 companies assigned to Army divisions and four Echelon Above Division (EAD) Companies. Two EAD Companies are assigned to U.S. Army Special Operations Command and two to Intelligence and Security Command.

Version 8.7, Revision 3 of the MQ-1C Gray Eagle CPF defines an operational requirement for the MQ-1C Gray Eagle Extended Range. The MQ-1C Gray Eagle Extended Range provides for greater range, endurance, and payload carrying capability for EAD units.

The Gray Eagle System consists of 12 MQ-1C aircraft with the following payloads: Electro-Optical/Infrared, Laser Range Finder/Laser Designator, Synthetic Aperture Radar/Ground Moving Target Indicator, communications relay, and Hellfire Missiles. Ground equipment includes: six Ground Control Stations (GCS), seven Ground Data Terminals, three satellite communication Ground Data Terminals, one Mobile GCS, the Automated Takeoff and Landing System which consists of six Tactical Automatic Landing System-Tracking Subsystems (two per runway), and Ground-Based Sense and Avoid. The Divisional UAS Companies consists of 126 Soldiers within the Combat Aviation Brigade. EAD companies have three platoons of equipment and four platoons of people (165 Soldiers). Each company has three identical platoons; each platoon capable of operating independently.

Executive Summary

Program Highlights Since Last Report

This is the final SAR submission for the MQ-1C Gray Eagle program.

Pursuant to section 2432 of title 10, United States Code, this is the final SAR submission for MQ-1C Gray Eagle, because the program is 90% or more expended.

The MQ-1C Gray Eagle Unmanned Aircraft System (UAS) production and fielding remains on schedule. Follow-On Test and Evaluation (FOT&E) II was successfully completed for the MQ-1C Gray Eagle Extended Range (ER). The final Defense Operational Test and Evaluation FOT&E II report deemed the system operationally effective and suitable and noted the system as having demonstrated a significant increase in endurance and maintainability over the current MQ-1C while preserving armed intelligence, surveillance, and reconnaissance capabilities. The system demonstrated an increase in Mean Time Between System Abort from 16.5 to 25.3 hours while Mean Time To Repair decreased from 1.9 to 0.7 hours. Results from FOT&E II supported Urgent Material Release and fielding of the first Gray Eagle ER unit.

MQ-1C Gray Eagle Unmanned Aircraft System concluded Follow-on Operational Test and Evaluation II for the Extended Range Gray Eagle capability in 2018 and is removed from the Director, Operational Test and Evaluation Oversight List.

On June 16, 2019, the final Gray Eagle Company (E/501st CAB) was activated and fielded, bringing the total to 15 of 15 active Gray Eagle companies. As of December 2019, 494,864 total hours were flown while maintaining 92% Combat Operational Availability for FY 2019. Additionally, Gray Eagle aircraft supported 79,877 combat flight hours throughout 2019. The Performance Based Logistic (PBL) FY 2019 - FY 2023 contract and the Full Rate Production (FRP) 5 contract were awarded. The FRP 5 contract buys out the Army Acquisition Objective (AAO). Operational tempo continues to increase in terms of flight hours and deployments.

MQ-1C Gray Eagle Procurement and RDT&E requirements are stable and funding is adequate to meet cost and schedule baselines. Risk has not increased since the 2018 SAR and the program continues to realize improved reliability coupled with a significant decrease in the material failure rate.

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

History of Significant Developments Since Program Initiation

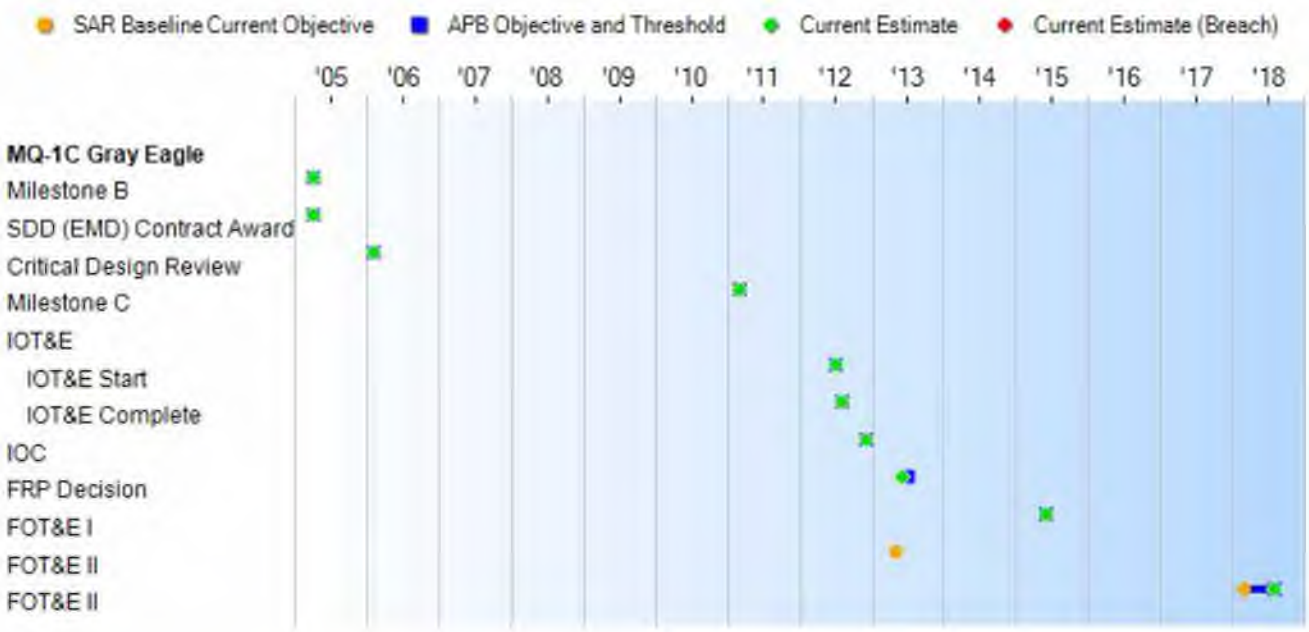
History of Significant Developments Since Program Initiation	
Date	**Significant Development Description**
April 2005	The MQ-1C Unmanned Aircraft System (UAS) Gray Eagle (Gray Eagle UAS) program was initiated at Milestone B. The Gray Eagle UAS was initially established as an Acquisition Category (ACAT) II program and was intended to replace the Hunter UAS, a Corps level asset.
May 2008	The Gray Eagle UAS was redesignated by the Defense Acquisition Executive as an ACAT ID program.
1st Quarter FY 2010	A Configuration Steering Board approved unit quantities to increase from 13 to 17 Gray Eagle UAS Companies.
March 2010	Milestone C was approved.
3rd Quarter FY 2010	A successful Limited User Test (LUT) was conducted.
March 2012	Deployment of the first full-up Gray Eagle Company (12 aircraft and 128 Soldiers) to support combat operations in Afghanistan.
August 2012	Successfully completed Initial Operational Test and Evaluation test event.
February 2013	Chief of Staff of the Army directs fielding of MQ-1C Gray Eagle companies to ten Army Divisions, one to the National Training Center (NTC), two Army Special Operations Forces (ARSOF) units, and two to the Aerial Exploitation Battalions (AEB) for a total of 15 companies.
June 2015	Successfully completed FOT&E.
August 2015	An ADM dated August 13, 2015, approved procurement of 15 additional MQ-1C Gray Eagle Unmanned Aircraft and associated ground support equipment for a total of 167 MQ-1C Gray Eagle aircraft from 152. Additionally, the ADM approved and authorized an acquisition and contracting strategy for Gray Eagle extended range modifications.
May 2017	The Army increased the Army Acquisition Objective from 167 to 204 aircraft, increasing the total Platoons to 45 sets.
December 2017	Revised APB approved.
August 2018	Successfully completed FOT&E II.
January 2019	MQ-1C Gray Eagle is removed from DOT&E oversight.
July 2019	Awarded Full Rate Production V contract that completes the procurement ofMQ-1C aircraft.
October 2019	Achieved Full Operational Capability after fielding 15 of 15 companies.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

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 Production Objective/Threshold		Current Estimate
Milestone B	Apr 2005	Apr 2005	Apr 2005	Apr 2005
SDD (EMD) Contract Award	Apr 2005	Apr 2005	Apr 2005	Apr 2005
Critical Design Review	Feb 2006	Feb 2006	Feb 2006	Feb 2006
Milestone C	Mar 2011	Mar 2011	Mar 2011	Mar 2011
IOT&E				
IOT&E Start	Sep 2011	Jul 2012	Jul 2012	Jul 2012
IOT&E Complete	Oct 2011	Aug 2012	Aug 2012	Aug 2012
IOC	Jun 2012	Dec 2012	Dec 2012	Dec 2012
FRP Decision	Apr 2012	Jul 2013	Jul 2013	Jun 2013
FOT&E I	Aug 2012	Jun 2015	Jun 2015	Jun 2015
FOT&E II	May 2013	N/A	N/A	N/A
FOT&E II	N/A	Mar 2018	Aug 2018	Aug 2018

Change Explanations

None

Acronyms and Abbreviations

FOT&E - Follow-On Test and Evaluation
IOT&E - Initial Operational Test and Evaluation
SDD - System Development and Demonstration

Performance

Performance Characteristics				
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**
Net Ready				
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, authentica-tion, confident-iality, and non-repudiation, 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 consistent data processing specified in the applicable joint and system integrated architecture views. The system must be	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 non-repudiation, and issuance of an ATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	The system must fully support execution of joint critical operational activities identified in the applicable joint and system integrated architectures and the system must 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 non -repudiation, and issuance of an IATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	Met threshold at IOT&E; LINK-16 demonstrated at FOT&E.	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, authentica-tion, confident-iality, and non-repudiation, and issuance of an ATO by the DAA, 5) Operationally effective information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.

able to enter and be managed in the network, and exchange data in a secure manner.				
Multi Payload/Weight Capability				
The aircraft is capable of simultaneously carrying two payloads with a combined minimum weight of 300 lbs.	UA will be capable of simultaneously carrying three or more payloads with a combined minimum weight of 300 lbs.	UA will be capable of simultaneously carrying two payloads with a combined minimum weight of 200 lbs.	Met threshold at IOT&E/FOT&E.	UA will be capable of simultaneously carrying three or more payloads with a combined minimum weight of 300 lbs.
Airframe Sensors Payload Capability				
The aircraft will be capable of accepting payloads that are: EO/IR/LD capable of providing a 90% PD of a military target from the aircraft's operational altitude out to a minimum of 30km slant range. EO/IR/LD capable of providing a 90% PR of a military target, from the aircraft's operational altitude, out to a minimum of 10km slant range. SAR/GMTI Sensor capable of providing 85% PD of a military target, from the aircraft's operational altitude, out to a minimum 10km slant range in clear weather	MQ-1C UA will be capable of accepting payloads that are: EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 30 km slant range; 90% PR of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range; SAR/GMTI sensor capable of providing 85% PD of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range in clear weather.	EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 25 km slant range; 90% PR of a military target, from the UA's operational altitude out to a minimum of 9 km slant range.	Met objective, verified CSP during Production Prove-Out Test.	MQ-1C UA will be capable of accepting payloads that are: EO/IR/LD capable of providing: 90% PD of a military target, from the UA's operational altitude out to a minimum of 30 km slant range; 90% PR of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range; SAR/GMTI sensor capable of providing 85% PD of a military target, from the UA's operational altitude, out to a minimum of 10 km slant range in clear weather.
Sustainment				
The aircraft system must maintain a combat Ao of 90%.	MQ-1C must maintain a combat Ao of 90%.	MQ-1C must maintain a combat Ao of 80%.	Met updated threshold KPP at IOT&E/FOT&E.	The Gray Eagle maintained a Combat Ao of 93% for the 4th Quarter FY 2019. The Gray Eagle maintained a Combat Ao of 92% for FY 2019.
Aircraft Propulsion				
The aircraft engine will be powered by	UA engine will be powered by	UA engine will be powered by	Met objective at IOT&E/FOT&E	UA engine will be powered by

DoD/NATO standard heavy fuel (JP8 Fuel).	DoD/NATO standard heavy fuel (JP8 Fuel).	DoD/NATO standard heavy fuel (JP8 Fuel).		DoD/NATO standard heavy fuel (JP8).
Weapons Capable				
The aircraft shall be capable of engaging traditional and non-traditional ground moving, stationary, and water borne moving targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary and water borne moving and stationary targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary targets with the AGM-114P-4A and AGM-114N-4.	Met threshold; (35) Hellfire shots in DT/OT; (100+) Hellfire shots in OIF/OEF.	MQ-1C must be capable of engaging traditional and non-traditional ground moving and stationary and water borne moving and stationary targets with the AGM-114P-4A and AGM-114N-4 and other AGM-114 variants or similar future AGMs and small light weight precision munitions.
Survivability and Force Protection				
The GCS-V3 will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.	Met threshold/ objective at IOT&E/FOT&E.	The GCS will be mounted onto an Army standard tactical vehicle with the ability to be up armored.

Requirements Reference

CPD for Extended Range Multi-Purpose ERMP Unmanned Aircraft System MQ-1C Increment: 1, version 8.6 dated April 30, 2015

Change Explanations

None

Acronyms and Abbreviations

% - Percent
AGMs - Air-to-Ground Missiles
Ao - Operational Availability
ATO - Approval to Operate
CPD - Capability Production Document
DAA - Designated Approval Authority
DISR - Department of Defense Information Technology Standards Registry
EO/IR/LD - Electro-Optical/Infrared/Laser Designator
GCS-V3 - Ground Control Station Version Three
GIG IT - Global Information Grid Information Technology
IA - Information Assurance
IATO - Interim Approval to Operate
JROC - Joint Requirements Oversight Council
KIP - Key Interface Profile
km - Kilometers
KPP - Key Performance Parameter
lbs - Pounds
NATO - North Atlantic Treaty Organization
NCOW RM - Net Centric Operations Warfare Reference Model
PD - Probability of Detection
PR - Probability of Recognition
SAR/GMTI - Synthetic Aperature Radar/Ground Moving Target Indicator
TV - Technical View
UA - Unmanned Aircraft

Track to Budget

RDT&E

Appn	BA	PE
Army	2040 07	0305204A

Project	Name	
D09	Research, Development, Test and Evaluation, Army	(Sunk)

Notes: FY 2005 - FY 2010

Appn	BA	PE
Army	2040 07	0305219A

Project	Name	
MQ1	Research, Development, Test and Evaluation, Army	(Sunk)

Notes: FY 2011 - FY 2018

Procurement

Appn	BA	PE
Army	2031 01	9670005A

Line Item	Name	
A00005	MQ-1 UAV	

Notes: FY 2010 - FY 2021

Appn	BA	PE
Army	2031 02	0023010A

Line Item	Name	
A00020	MQ-1 Payload	(Sunk)

Notes: FY2015 - FY2018

Appn	BA	PE
Army	2031 02	0313400A

Line Item	Name	
A01001	MQ-1 Payload	(Shared)

Appn	BA	PE
Army	2031 02	0023015A

Line Item	Name	
A01005	CSP FMV	(Shared)

Appn	BA	PE
Army	2035 02	0030500A

Line Item	Name	
00305000	Other Procurement, Army	(Sunk)

Notes: FY 2007 - FY 2009

Notes

The MQ-1C Gray Eagle program baseline includes the Common Sensor Payload (CSP) procurement, which is part of the MQ-1 Payloads Aircraft Procurement, Army budget line. The funding line is shared with the CSP, Synthetic Aperture Radar/Ground Moving Target Indicator and the Tactical Signals Intelligence Payload.

MILCON

Appn	BA	PE
Army	2050 02	0202096A

Project	Name
069830	Military Construction, Army

Acq O&M

Appn	BA	PE
Army	2020 04	0702806A

Subactivity Group	Name	
070	Acquisition O&M Support MQ-1C	(Shared)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2010 $M			BY 2010 $M	TY $M		
	SAR Baseline Production Estimate	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Production Estimate	Current APB Production Objective	Current Estimate
RDT&E	895.3	969.0	1065.9	969.3	896.3	984.3	984.6
Procurement	3364.7	4131.0	4544.1	3994.5	3572.0	4510.3	4338.7
Flyaway	--	--	--	2864.9	--	--	3120.2
Recurring	--	--	--	2853.4	--	--	3108.0
Non Recurring	--	--	--	11.5	--	--	12.2
Support	--	--	--	1129.6	--	--	1218.5
Other Support	--	--	--	916.9	--	--	988.4
Initial Spares	--	--	--	212.7	--	--	230.1
MILCON	992.0	633.4	696.7	633.5	1080.7	697.2	697.2
Acq O&M	0.0	5.6	6.2	5.6	0.0	6.1	6.1
Total	5252.0	5739.0	N/A	5602.9	5549.0	6197.9	6026.6

Current APB Cost Estimate Reference

Deputy Assistant Secretary of the Army for Cost and Economics sufficiency review of the MQ-1C Gray Eagle POE dated August 24, 2017

Cost Notes

No cost estimate was completed in the past year for the MQ-1C UAS Program.

Total Quantity			
Quantity	SAR Baseline Production Estimate	Current APB Production	Current Estimate
RDT&E	2	2	2
Procurement	29	43	43
Total	31	45	45

Quantity Notes

The MQ-1C Gray Eagle Unit of Measure is a Platoon. The Combat Aviation Brigade (CAB) platoon equipment set consists of: four aircraft, two Universal Ground Control Stations (UGCS), two Universal Ground Data Terminals (UGDT), one Satellite Communication (SATCOM) Ground Data Terminal (SGDT), four Satellite Airborne Data Terminals (SADT), one Automatic Take-off and Landing Systems (ATLS), Government Furnished Equipment (GFE) and Ground Support Equipment (GSE). The USASOC and INSCOM Platoon equipment sets consists of: four aircraft, two UGCS, one Mobile Ground Control Station (MGCS), three UGDTs, one SGDT, four SADTs, one ATLS set, GFE and GSE.

MQ-1C Gray Eagle shows 45 Platoon Sets procured prior to FY 2018 given all units received at least a portion of the total required. FY 2018 and FY 2019 procurements fulfill the total requirement of 12 aircraft per company.

On May 4, 2017, the Army approved an Army Acquisition Objective adjustment to bring the total requirement to 204 MQ-1C Gray Eagle aircraft, increasing the Platoon Sets to 45. Of the 204 MQ-1C Gray Eagle aircraft, a total of 101 will be in the Extended Range configuration.

Cost and Funding

Funding Summary

Appropriation Summary FY 2021 President's Budget / December 2019 SAR (TY$ M)									
Appropriation	Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
RDT&E	984.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	984.6
Procurement	4338.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4338.7
MILCON	697.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	697.2
Acq O&M	5.5	0.1	0.1	0.2	0.2	0.0	0.0	0.0	6.1
PB 2021 Total	6026.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	6026.6
PB 2020 Total	6086.0	54.1	0.1	0.2	0.2	0.0	0.0	0.0	6140.6
Delta	-60.0	-54.0	0.0	0.0	0.0	0.0	0.0	0.0	-114.0

Funding Notes

Funding reflects FY 2021 PB, less Wartime Replacement Aircraft funding.

Funding for Wartime Replacement Aircraft are not accounted in the APB and have no impact to the PAUC and APUC. Therefore, they are not included in this report.

Quantity Summary FY 2021 President's Budget / December 2019 SAR (TY$ M)										
Quantity	Undistributed	Prior	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	43	0	0	0	0	0	0	0	43
PB 2021 Total	2	43	0	0	0	0	0	0	0	45
PB 2020 Total	2	43	0	0	0	0	0	0	0	45
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
		TY $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	54.3
2006	--	--	--	--	--	--	90.6
2007	--	--	--	--	--	--	123.7
2008	--	--	--	--	--	--	103.4
2009	--	--	--	--	--	--	61.8
2010	--	--	--	--	--	--	135.1
2011	--	--	--	--	--	--	119.2
2012	--	--	--	--	--	--	121.9
2013	--	--	--	--	--	--	68.7
2014	--	--	--	--	--	--	13.1
2015	--	--	--	--	--	--	46.5
2016	--	--	--	--	--	--	22.3
2017	--	--	--	--	--	--	13.5
2018	--	--	--	--	--	--	10.5
Subtotal	2	--	--	--	--	--	984.6

Annual Funding 2040 | RDT&E | Research, Development, Test, and Evaluation, Army							
Fiscal Year	Quantity	BY 2010 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2005	--	--	--	--	--	--	58.8
2006	--	--	--	--	--	--	95.5
2007	--	--	--	--	--	--	127.3
2008	--	--	--	--	--	--	104.4
2009	--	--	--	--	--	--	61.6
2010	--	--	--	--	--	--	132.7
2011	--	--	--	--	--	--	114.8
2012	--	--	--	--	--	--	115.6
2013	--	--	--	--	--	--	64.1
2014	--	--	--	--	--	--	12.0
2015	--	--	--	--	--	--	41.8
2016	--	--	--	--	--	--	19.9
2017	--	--	--	--	--	--	11.8
2018	--	--	--	--	--	--	9.0
Subtotal	2	--	--	--	--	--	969.3

Annual Funding 2031 | Procurement | Aircraft Procurement, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	6	283.4	78.5	--	361.9	126.2	488.1
2011	7	277.5	76.8	3.5	357.8	146.3	504.1
2012	7	236.2	118.3	8.7	363.2	249.0	612.2
2013	3	171.4	133.5	--	304.9	145.6	450.5
2014	5	274.0	118.6	--	392.6	167.6	560.2
2015	5	122.9	58.2	--	181.1	65.3	246.4
2016	4	221.7	88.3	--	310.0	72.8	382.8
2017	5	236.7	86.3	--	323.0	118.3	441.3
2018	--	--	224.5	--	224.5	50.0	274.5
2019	--	--	103.3	--	103.3	--	103.3
Subtotal	42	1823.8	1086.3	12.2	2922.3	1141.1	4063.4

Annual Funding 2031 | Procurement | Aircraft Procurement, Army							
Fiscal Year	Quantity	BY 2010 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2010	6	276.0	76.5	--	352.5	122.9	475.4
2011	7	265.4	73.5	3.3	342.2	140.0	482.2
2012	7	222.2	111.3	8.2	341.7	234.1	575.8
2013	3	158.4	123.2	--	281.6	134.6	416.2
2014	5	249.3	107.9	--	357.2	152.5	509.7
2015	5	110.1	52.1	--	162.2	58.6	220.8
2016	4	196.0	78.1	--	274.1	64.3	338.4
2017	5	205.1	74.8	--	279.9	102.5	382.4
2018	--	--	190.6	--	190.6	42.5	233.1
2019	--	--	85.9	--	85.9	--	85.9
Subtotal	42	1682.5	973.9	11.5	2667.9	1052.0	3719.9

Common Sensor Payload (TY$M):

FY 2010 ($48.5M)
FY 2011 ($48.2M)
FY 2012 ($61.5M)
FY 2013 ($73.6M)
FY 2014 ($29.2M)
FY 2015 ($8.4M)
FY 2016 ($68.5M)
FY 2017 ($37.7M)
FY 2018 ($50.0M)

Note: FY 2018 CSP funding includes a $10.0M reprogramming action.

Annual Funding 2035 | Procurement | Other Procurement, Army							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	9.7	9.7
2008	--	--	31.4	--	31.4	24.3	55.7
2009	1	151.2	15.3	--	166.5	43.4	209.9
Subtotal	1	151.2	46.7	--	197.9	77.4	275.3

Annual Funding 2035 | Procurement | Other Procurement, Army							
Fiscal Year	Quantity	BY 2010 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2007	--	--	--	--	--	9.9	9.9
2008	--	--	31.6	--	31.6	24.5	56.1
2009	1	150.2	15.2	--	165.4	43.2	208.6
Subtotal	1	150.2	46.8	--	197.0	77.6	274.6

Annual Funding 2050 | MILCON | Military Construction, Army	
Fiscal Year	TY $M
	Total Program
2011	102.0
2012	228.0
2013	107.2
2014	36.0
2015	124.0
2016	--
2017	47.0
2018	53.0
Subtotal	697.2

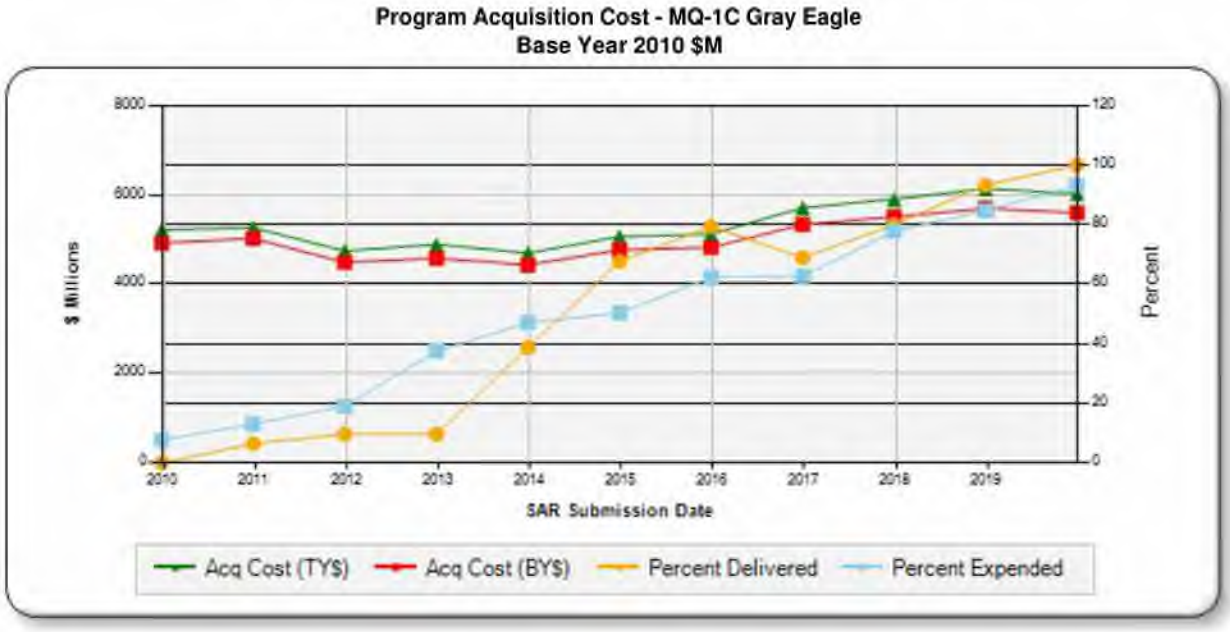
Annual Funding 2050 | MILCON | Military Construction, Army	
Fiscal Year	BY 2010 $M
	Total Program
2011	96.6
2012	213.1
2013	98.8
2014	32.2
2015	109.1
2016	--
2017	39.8
2018	43.9
Subtotal	633.5

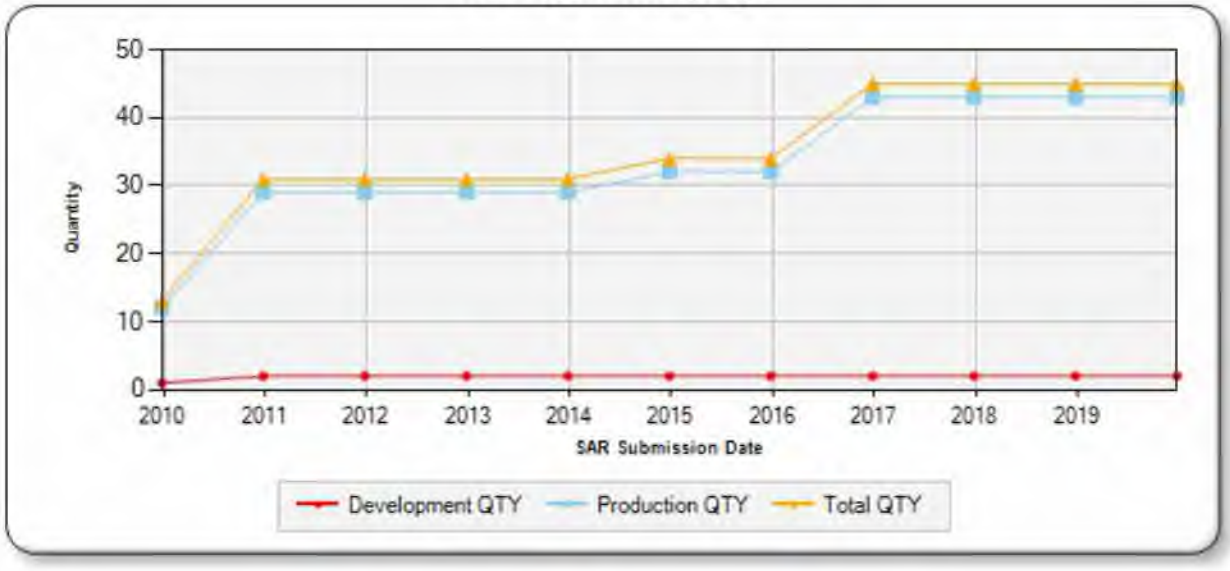
Annual Funding 2020 | Acq O&M | Operation and Maintenance, Army	
Fiscal Year	TY $M Total Program
2016	2.3
2017	2.0
2018	0.9
2019	0.3
2020	0.1
2021	0.1
2022	0.2
2023	0.2
Subtotal	6.1

Annual Funding 2020 | Acq O&M | Operation and Maintenance, Army	
Fiscal Year	BY 2010 $M
	Total Program
2016	2.1
2017	1.8
2018	0.8
2019	0.3
2020	0.1
2021	0.1
2022	0.2
2023	0.2
Subtotal	5.6

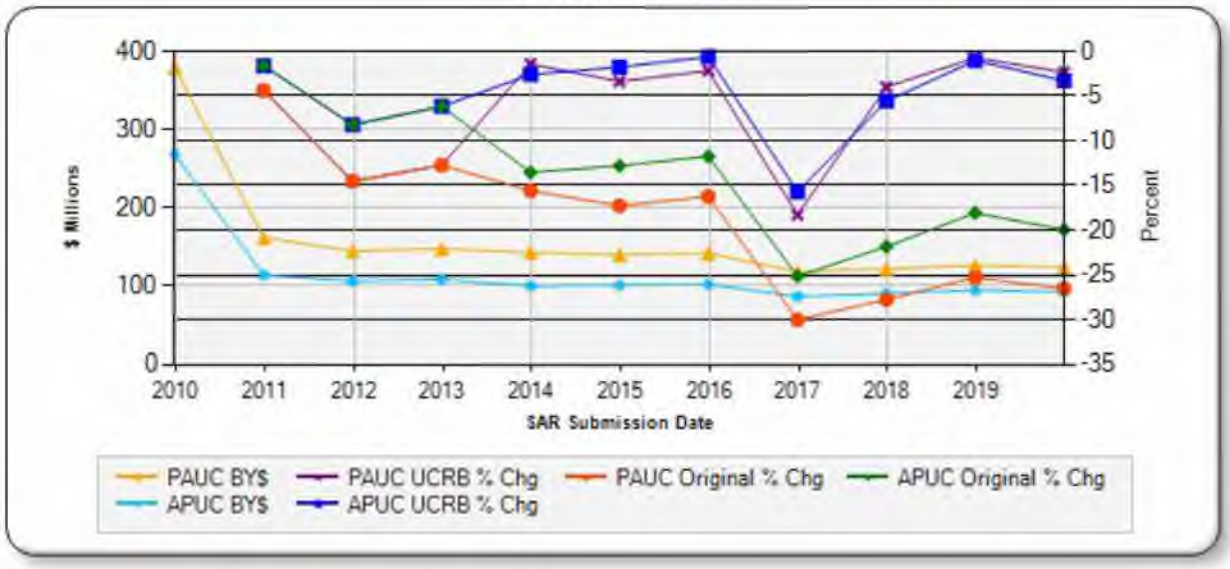
Charts

MQ-1C Gray Eagle first began SAR reporting in December 2009





Unit Cost - MQ-1C Gray Eagle
Base Year 2010 $M



Risks

Significant Schedule and Technical Risks

Significant Schedule and Technical Risks	
Current Estimate (December 2019)	
1.	Propulsion
2.	System Reliability
3.	Cybersecurity

Risks

Risk and Sensitivity Analysis

Risks and Sensitivity Analysis	
Current Baseline Estimate (December 2017)	
1.	Propulsion reliability may negatively impact mission effectiveness, safety, and cost.
Original Baseline Estimate (March 2011)	
1.	The MQ-1C aircraft may have interoperability issues with other rotary wing aircraft via Manned-Unmanned Teaming. This potential issue from March 2011 has since been mitigated.
2.	The MQ-1C aircraft may need to initiate redesign efforts in order to meet performance requirements. This potential issue from March 2011 has since been mitigated.
Revised Original Estimate (N/A)	
None	
Current Procurement Cost (December 2019)	
1.	Planned procurement funding currently sufficient to cover planned procurement costs.

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	3/29/2010	7/3/2012
Approved Quantity	2	6
Reference	Milestone C ADM	LRIP III ADM
Start Year	2010	2012
End Year	2011	2017

The Current Total LRIP Quantity is more than 10% of the total production quantity due to MDA directed quantities to facilitate rapid entrance of the MQ-1C Gray Eagle capability into theater.

Notes

Initial LRIP Decision
The original LRIP quantity was two MQ-1C Gray Eagle systems which equates to six platoon sets (24 aircraft).

Current Total LRIP
The Current Total LRIP quantity is six MQ-1C Gray Eagle systems which equates to 18 platoon sets and includes LRIP I (24 aircraft and two attrition aircraft), LRIP II (24 aircraft and five attrition aircraft) and LRIP III (29 aircraft).

Foreign Military Sales

None

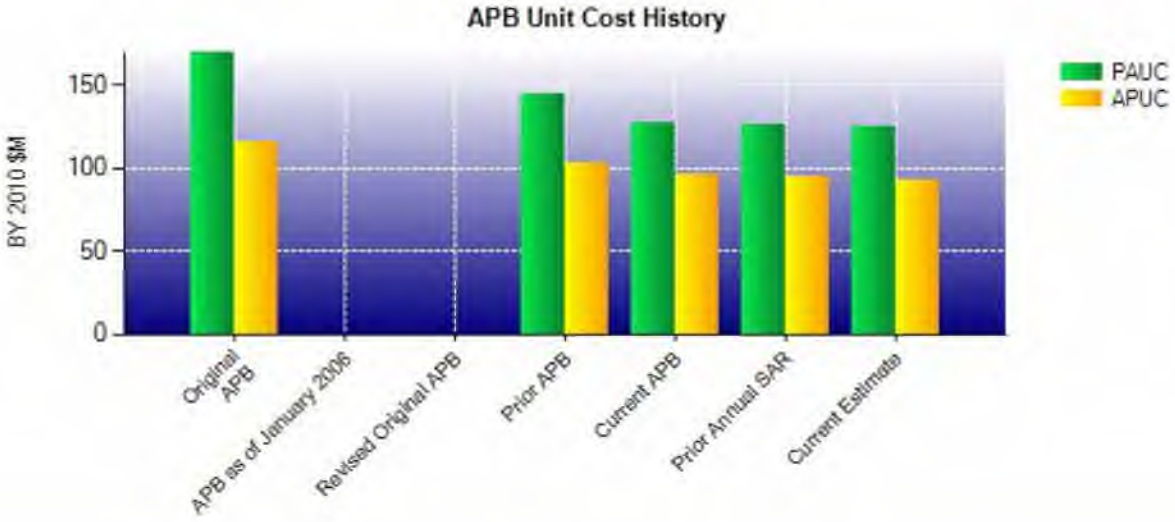
Nuclear Costs

None.

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 $M Current UCR Baseline (Dec 2017 APB)	BY 2010 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	5739.0	5602.9	
Quantity	45	45	
Unit Cost	127.533	124.509	-2.37
Average Procurement Unit Cost			
Cost	4131.0	3994.5	
Quantity	43	43	
Unit Cost	96.070	92.895	-3.30

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2010 $M Original UCR Baseline (Mar 2011 APB)	BY 2010 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	5252.0	5602.9	
Quantity	31	45	
Unit Cost	169.419	124.509	-26.51
Average Procurement Unit Cost			
Cost	3364.7	3994.5	
Quantity	29	43	
Unit Cost	116.024	92.895	-19.93



APB Unit Cost History					
Item	Date	BY 2010 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Mar 2011	169.419	116.024	179.000	123.172
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	Sep 2013	145.103	103.034	154.929	110.941
Current APB	Dec 2017	127.533	96.070	137.731	104.891
Prior Annual SAR	Dec 2018	126.578	95.063	136.458	103.551
Current Estimate	Dec 2019	124.509	92.895	133.924	100.900

SAR Unit Cost History

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial PAUC Development Estimate	Changes								PAUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
401.600	0.094	-242.537	-7.813	13.968	13.152	0.000	0.536	-222.600	179.000

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
179.000	0.798	-39.623	-0.049	2.536	-14.489	0.000	5.751	-45.076	133.924

Initial SAR Baseline to Current SAR Baseline (TY $M)									
Initial APUC Development Estimate	Changes								APUC Production Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
285.100	0.141	-177.121	0.000	14.931	-0.452	0.000	0.573	-161.928	123.172

Current SAR Baseline to Current Estimate (TY $M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
123.172	0.593	-23.289	-0.051	0.919	-6.463	0.000	6.019	-22.272	100.900

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	Apr 2005	Apr 2005	Apr 2005
Milestone C	N/A	Feb 2010	Mar 2011	Mar 2011
IOC	N/A	Feb 2012	Jun 2012	Dec 2012
Total Cost (TY $M)	N/A	5322.6	5549.0	6026.6
Total Quantity	N/A	13	31	45
PAUC	N/A	409.431	179.000	133.924

Cost Variance

Summary TY $M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Production Estimate)	896.3	3572.0	1080.7	--	5549.0
Previous Changes					
Economic	+4.2	+26.1	+6.3	--	+36.6
Quantity	--	+723.0	--	--	+723.0
Schedule	--	-2.2	--	--	-2.2
Engineering	+74.6	+39.5	--	--	+114.1
Estimating	+9.5	-164.4	-389.8	+6.1	-538.6
Other	--	--	--	--	--
Support	--	+258.7	--	--	+258.7
Subtotal	+88.3	+880.7	-383.5	+6.1	+591.6
Current Changes					
Economic	--	-0.6	-0.1	--	-0.7
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	-113.5	+0.1	--	-113.4
Other	--	--	--	--	--
Support	--	+0.1	--	--	+0.1
Subtotal	--	-114.0	--	--	-114.0
Total Changes	+88.3	+766.7	-383.5	+6.1	+477.6
Current Estimate	984.6	4338.7	697.2	6.1	6026.6

Summary BY 2010 $M					
Item	RDT&E	Procurement	MILCON	Acq O&M	Total
SAR Baseline (Production Estimate)	895.3	3364.7	992.0	--	5252.0
Previous Changes					
Economic	--	--	--	--	--
Quantity	--	+635.2	--	--	+635.2
Schedule	--	+0.6	--	--	+0.6
Engineering	+63.7	+29.9	--	--	+93.6
Estimating	+10.3	-162.8	-358.6	+5.6	-505.5
Other	--	--	--	--	--
Support	--	+220.1	--	--	+220.1
Subtotal	+74.0	+723.0	-358.6	+5.6	+444.0
Current Changes					
Economic	--	--	--	--	--
Quantity	--	--	--	--	--
Schedule	--	--	--	--	--
Engineering	--	--	--	--	--
Estimating	--	-93.5	+0.1	--	-93.4
Other	--	--	--	--	--
Support	--	+0.3	--	--	+0.3
Subtotal	--	-93.2	+0.1	--	-93.1
Total Changes	+74.0	+629.8	-358.5	+5.6	+350.9
Current Estimate	969.3	3994.5	633.5	5.6	5602.9

Previous Estimate: December 2018

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.6
Revised estimate to reflect Congressional action to transfer Service Life Extension Program funding to modernization program. (Estimating)	-49.8	-60.0
Revised estimate to reflect funding associated with Wartime Replacement Aircraft, not with baseline program. (Estimating)	-44.0	-54.0
Adjustment for current and prior escalation. (Estimating)	+0.3	+0.4
Revised estimate to reflect new 2021 PB indices. (Estimating)	0.0	+0.1
Adjustment for current and prior escalation. (Support)	+0.3	+0.2
Revised estimate to reflect new 2021 PB indices. (Support)	0.0	-0.1
Procurement Subtotal	-93.2	-114.0

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-0.1
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1
MILCON Subtotal	+0.1	0.0

Contracts

General Notes

Contracts W58RGZ-12-C-0075 and W58RGZ-17-C-0018, Performance Based Logistics (PBL), are not included in the December 2019 SAR. These contracts are for PBL support to fielded systems and are O&M, Army funded.

Contract Identification

Appropriation: Procurement
Contract Name: FRP
Contractor: General Atomics Corporation
Contractor Location: 14200 Kirkham Way
Poway, CA 92064
Contract Number: W58RGZ-13-C-0109
Contract Type: Firm Fixed Price (FFP)
Award Date: September 13, 2013
Definitization Date: December 06, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
199.7	N/A	15	1053.7	N/A	106	1053.7	1053.7

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to additional hardware requirements.

Cost and Schedule Variance Explanations

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

Notes

Contract W58RGZ-13-C-0109, Full Rate Production (FRP) is Firm Fixed Price. The reported modification through month end August is P00191, with $1,053,734,867.00 cumulatively obligated for the entire contract.

FRP I was awarded September 2013 (options awarded December 2013) for 19 MQ-1C Gray Eagle aircraft and associated ground equipment.

The FRP II aircraft section was awarded March 2015; the ground equipment section was awarded April 2015. The effort included 19 MQ-1C Gray Eagle aircraft and associated ground equipment. Mod P00075 added four additional war replacement aircraft for a total of 23 MQ-1C Gray Eagle aircraft and associated ground equipment.

The FRP III was awarded June 2015 for 19 aircraft. The MQ-1C Gray Eagle Extended Range Engineering Change Proposal (ECP) 714 was awarded September 2015 and definitized on February 8, 2017. (Note: Originally, the Extended Range aircraft was named Improved Gray Eagle.

The FRP IV contract was awarded May 2017 for 20 MQ-1C Gray Eagle Extended Range aircraft.

A supplemental contract was awarded September 2017 for 20 MQ-1C Gray Eagle Extended Range aircraft. An option for five Extended Range Aircraft was awarded October 2017.

FRP 5 awarded July 2019.

Contract Identification

Appropriation: RDT&E
Contract Name: Engineering Services II
Contractor: General Atomics - Aeronautical Systems, Inc.
Contractor Location: 14200 Kirkham Way
Poway, CA 92064-7103
Contract Number: W58RGZ-13-C-0110
Contract Type: Cost Plus Fixed Fee (CPFF)
Award Date: September 30, 2013
Definitization Date: September 30, 2013

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
38.5	N/A	N/A	279.7	N/A	N/A	278.8	278.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to increased Engineering Change Proposals to support: 1) Increased fielding and operational tempo 2) Army requirements (Operational Needs Statement, Automatic Dependent Surveillance, and Mode 5), and 3) Establishment of Engineering requirements in support of the Gray Eagle Modification line FY 2017 - present.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (4/29/2019)	+2.5	-8.1
Previous Cumulative Variances	+5.5	-2.8
Net Change	-3.0	-5.3

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to 4.3.5 Maintenance Build, GFE Maintenance, Global Positioning System denied, and Small Glide Munitions cost growth.

The unfavorable net change in the schedule variance is due to Global Positioning System denied, RCM Mission Control Module Re-Architecture, and 4.3.5 Maintenance Build schedule slip.

Notes

FY 2018 Fifth Year Option was awarded with modification P00108, January 17, 2018. The total contract value is currently is $279.7M as of April 2020.

Contract W58RGZ-13-C-0110 is 91.8 percent complete as of 4/30/2019. The cumulative Cost Performance Index is 1.011 and the Schedule Performance Index is 0.967 The Contractor is performing as expected. The contractor has not submitted an Integrated Performance Management Review (IPMR) since month end April 2019.

Contract Identification

Appropriation: Procurement
Contract Name: FRP V
Contractor: General Atomics Corporation
Contractor Location: 14200 Kirkham Way
Poway, CA 92064-7103
Contract Number: W58RGZ-19-C-0022
Contract Type: Firm Fixed Price (FFP)
Award Date: July 15, 2019
Definitization Date: July 15, 2019

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
275.0	N/A	30	275.0	N/A	30	275.0	275.0

Cost and Schedule Variance Explanations

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

Notes

This Firm Fixed Price (FFP) and Cost Plus Fixed Fee (CPFF) contract is a result of solicitation W58RGZ-18-R-0133 for Full Rate Production (FRP) 5 of the MQ-1C Gray Eagle Extended Range Unmanned Aircraft System (UAS) in accordance with the Statement of Work, entitled UNMANNED AIRCRAFT SYSTEMS (UAS) MQ-1C Gray Eagle Extended Range Full Rate Production, dated 10 July 2019. The negotiated settlement amount of this contract is $275,000,000.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	43	43	43	100.00%
Total Program Quantity Delivered	45	45	45	100.00%

Expended and Appropriated (TY $M)

Total Acquisition Cost	6026.6	Years Appropriated	16
Expended to Date	5616.4	Percent Years Appropriated	84.21%
Percent Expended	93.19%	Appropriated to Date	6026.1
Total Funding Years	19	Percent Appropriated	99.99%

The above data is current as of February 10, 2020.

Notes

The calculation in the Percent Delivered table above is based on a quantity of 45 Platoon Sets for initial fielding. Remaining procurement activity is focused on increasing the number of aircraft delivered to each platoon.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	September 20, 2017
Source of Estimate:	POE
Quantity to Sustain:	45
Unit of Measure:	Platoons
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2011 - FY 2038

The 2017 POE assumes an Army Acquisition Objective (AAO) of 204 aircraft across 15 Companies (45 Platoon Sets). The Companies are 11 Combat Aviation Brigades (CAB), two Army Intelligence and Security Command (INSCOM) Companies, and two U.S. Army Special Operations Command (USASOC) Companies. The estimate includes one training battalion Company.

On May 4, 2017 the Army issued a memorandum for the adjustment to the MQ-1C Gray Eagle UAS AAO. The memorandum increased the AAO from 167 to 204 Air Vehicles. The air vehicles are 12 per Company for 15 Companies or 180 Aircraft. Additionally, the system includes 11 Training Base Aircraft and 13 Operational Readiness Float Aircraft for a total AAO of 204 Aircraft.

The Gray Eagle Unit of Measure is a Platoon. The CAB platoon equipment set consists of: four aircraft, two Universal Ground Control Stations (UGCS), two Universal Ground Data Terminals (UGDT), one Satellite Communication (SATCOM) Ground Data Terminal (SGDT), four Satellite Airborne Data Terminals (SADT), one Automatic Take-off and Landing Systems (ATLS), Government Furnished Equipment (GFE) and Ground Support Equipment (GSE). The USASOC and INSCOM platoon equipment sets consists of: four aircraft, two UGCS, one Mobile Ground Control Station (MGCS), three UGDT, one SGDT, four SADT, one ATLS set, GFE and GSE. The O&S Cost Estimate includes the training company which is not a fully-equipped platoon with a lower annual operating tempo (OPTEMPO).

The O&S Cost estimating methodology is based on historical Cost Performance Report actual data, logistics headcount actual experience, actual mishap cost, engineering software estimates, SATCOM actual historical cost, and the Army Manpower Cost System to estimate military manpower requirements by Military Occupational Specialty and grade.

Sustainment Strategy

The Sustainment Strategy includes a Performance Based Logistics (PBL) contract. Soldiers operate systems and perform 93-percent of the basic field maintenance. Field Service Representatives support the remaining seven percent of basic field maintenance through PBL efforts. Some of the Depot Level Reparables will be performed by organic depots through a Public Private Partnership (PPP) arrangement. Further PPP with organic depot efforts will be determined through cost-benefit analysis and application of section 2466 of title 10, U.S. Code and the 50-50 rule.

Antecedent Information

No Antecedent

Annual O&S Costs BY2010 $M		
Cost Element	**MQ-1C Gray Eagle Average Annual Cost Per Platoons**	**No Antecedent (Antecedent) No Antecedent**
Unit-Level Manpower	3.902	0.000
Unit Operations	0.181	0.000
Maintenance	3.847	0.000
Sustaining Support	3.556	0.000
Continuing System Improvements	0.009	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	11.495	--

Item	Total O&S Cost $M			
	MQ-1C Gray Eagle			No Antecedent (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	10655.5	11721.1	10655.5	N/A
Then Year	14235.0	N/A	14235.0	0.0

Equation to Translate Annual Cost to Total Cost

Total O&S Cost is $10,655.5M allocated over 927 Operational Platoon Systems. The Operational Platoon System consists of 15 Operational Companies with three platoons per company for a total of 45 Operational Platoons with an expected system life of 20-years which results in 900 Operational Platoon Systems. Additionally, MQ-1C Gray Eagle has one training base platoon with a system life of 27-years. This results a total of 927 total Operational Platoon Systems. The total O&S Cost $10,655.5M divided by 927 Operational Platoon Systems equals 11.495 Average Annual Cost per Platoon.

O&S Cost Variance		
Category	**BY 2010 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2018 SAR	10655.5	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	10655.5	

Disposal Estimate Details

Date of Estimate:	September 20, 2017
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 2010 $M):	158.5

The disposal cost estimate was revised to include the U.S. Army Environmental Estimate.