RCS: DD-A&T(Q&A)823-373

MQ-4C Triton Unmanned Aircraft System (MQ-4C Triton)

As of FY 2021 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

~~This document contains information that may be exempt from mandatory disclosure under the FOIA.~~

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-4C Triton Unmanned Aircraft System (MQ-4C Triton)

DoD Component

Navy

MQ-4C Triton Unmanned Aircraft System (MQ-4C)

Responsible Office

CAPT Daniel Mackin
47561 Ranch Road
Bldg 4023
Naval Air Station Patuxent River, MD 20670

daniel.mackin@navy.mil

Phone: 301-757-5821
Fax: 301-757-9459
DSN Phone: 301-757-5821
DSN Fax: 757-9459
Date Assigned: September 5, 2017

References

SAR Baseline (Production Estimate)
Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 20, 2016

Approved APB
Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 20, 2016

Mission and Description

The MQ-4C Triton Unmanned Aircraft System (MQ-4C Triton) is an integrated System of Systems and a force multiplier for the Joint Force and Fleet Commander, enhancing battlespace awareness and shortening the sensor-to-shooter kill chain. The system provides multiple-sensor, persistent maritime and littoral Intelligence, Surveillance and Reconnaissance data collection and dissemination as well as an airborne communications relay capability to Combatant Commanders, Expeditionary Strike Group Commanders, Carrier Strike Group Commanders, and other designated U.S. and Joint Commanders. The incorporation of Signals Intelligence (SIGINT) payloads is part of the Navy's Maritime Intelligence, Surveillance, Reconnaissance, and Targeting (MISR&T) transition plan. The addition of a de-icing capability over the baseline Global Hawk provides operators with the capability to transition through icing conditions. The mission sensors installed on the MQ-4C Triton provide 360 degree radar and Electro-Optical/Infrared coverage. Additional functionality that optimizes the system for maritime search operations includes an Automatic Identification System and an Electronic Support Measures system. The MQ-4C Triton is a tactical, land-based, forward deployed platform that will operate from five operational sites (orbits) worldwide. It will provide surveillance when no other naval forces are present and will support operations in the littorals. Furthermore, the asset will respond to theater level operational or national strategic taskings.

Executive Summary

Program Highlights Since Last Report

At Milestone C, an additional Integrated Functional Capability (IFC) 4 Multiple Intelligence (Multi-INT) was incorporated into the program baseline. This change drove additional cost into the Program of Record (POR) from both a development and production perspective. Since that time, as a result of late discovery and correction of baseline performance deficiencies for co-site and electromagnetic interference, late IFC-4 contract award, and the technical complexities of the integration of new multiple intelligence (Multi-INT) sensors and architecture, there has been additional cost and schedule growth.

PB-21 Budget Note: The PB-21 budget submission reflects a production pause in FY 2021 and FY 2022 of MQ-4C Triton Unmanned Air Systems (UAS), deferring further procurement of production UAS until FY 2023. To provide for previously procured UAS, the budget supports preservation of some key elements of the Support costs to include trainer/training equipment, peculiar ground support equipment, government and contractor production team, and Interim Contractor Support of the Baseline Early Operational Capability (EOC). The budget defers the Multi-Function Active Sensor (MFAS) radar and Preventive Maintenance Inspection (PMI)/Structures depot requirements. To provide long-term sustainment of the UAS, the program will address deferred depot actions and other sustainment shortfalls in a future budget.

The Triton program adjusted its program plan to reflect an IOC in 4Q FY 2022 as a result of late discovery and correction of baseline performance deficiencies for co-site and electromagnetic interference, late IFC 4 contract award, and the technical complexities of the integration of new Multi-INT sensors and architecture. A new schedule is being developed and a Program Deviation Report is in work to recommend an update to the MQ-4C Triton Acquisition Program Baseline (APB). Schedule estimates provided in this report are pre-decisional pending approval of an APB.

During this reporting period, IFC 4 System III testing began, the Triton program completed the operational test period (OT-C1) of IFC 3 and COMOPTEVFOR delivered the final Operational Test report. A list of lessons learned was developed from the OT period and activities were initiated to address each of them. IFC 3.2 software was provided to the fleet in 2019, which included sensor enhancements, Link-16 capability, and interoperability functionality. Starting late September 2019, Patrol and Reconnaissance Wing ELEVEN conducted a successful Operational Readiness Evaluation on the Rotational Maintenance Detachments (RMD) and aircrew of VUP-19. In late November 2019, the squadron conducted a series of confidence flights culminating in the detachment of two Air Vehicles to Guam. In January 2020, two Fleet Air Vehicles from VUP-19 detached to Guam to initiate Triton EOC. Aircrafts B2 and B3 are progressing through IFC 4 Retrofit.

Since the April 16, 2018 ADM, the Triton program has progressed with Multi-INT IFC-4 development. The IFC 4 hardware and software build will bring a multi-mission sensor capability to replace the aging EP-3 platform as part of the Navy's Maritime Intelligence, Surveillance, Reconnaissance and Targeting transition plan. A Configuration Steering Board (CSB)/Gate 6 review was conducted May 22, 2019. The Program Manager was directed to take measurable steps to improve the quality, reliability and maintainability of the MQ-4C systems. The CSB Gate 6 ADM was signed by ASN on September 3, 2019. An action memo was signed December 16, 2019 assessing the program demonstrated sufficient improvement in quality, reliability, maintainability and performance to plan on IFC 4 Multi-INT Qualification Certification and Principal Military Deputy (PMD) recommended the program move forward with definitization of LRIP Lot 5. The LRIP Lot 5 Definitization contract awarded on December 21, 2019.

Other significant contract efforts during this period include the award of the Interim Sustaining Engineering and Support (SES) contract on March 16, 2019 and the definitization of the IFC 4 development contract in August of 2019. The LRIP Lot 4 Definitization contract awarded on December 20, 2019.

The United States of America and Commonwealth of Australia entered into a Cooperative Partnership under a Memorandum of Understanding (MOU) for the Development, Production, and Sustainment of MQ-4C Triton UAS, signed on June 19, 2018. The third executive steering committee was successfully completed, November 13, 2019. Currently, the Royal Australian Air Force (RAAF) has Australian Department of Defense (ADOD) approval to procure two aircraft and all ground stations within the scope of the MOU. The Capability Acquisition Sustainment Group (CASG) supporting the RAAF procurement of Triton returned to the Australian Government in January 2020 for approval to procure the last 4 air vehicles and the first seven years of Sustainment, a decision is anticipated in mid CY 2020. A Procurement Agreement (PA-1)

agreement with Australia for Sense and Avoid (SAA) was signed in May 2019.

History of Significant Developments Since Program Initiation

History of Significant Developments Since Program Initiation	
Date	**Significant Development Description**
April 2008	Milestone (MS) B
April 2008	System Development and Demonstration (SDD) Contract Award
January 2009	System Requirements Review
February 2010	Preliminary Design Review
February 2011	Critical Design Review (CDR)
November 2011	System Demonstration Test Article (SDTA) Contract Award
June 2012	Entered Integrated Testing with receipt of first SDD aircraft
May 2013	First Flight
March 2014	Completed Initial Envelope Expansion
4th Quarter FY 2014	Ferried three developmental test aircraft from Palmdale, California to Patuxent River Naval Air Station in Maryland (Fourth Quarter FY 2014 through First Quarter FY 2015)
December 2014	Began software installation in support of sensor testing
December 2014	Completed development of Integrated Functional Capability (IFC) 2 software
April 2015	FMS technical services case with the German Federal Ministry of Defense
June 2015	Executive Production Readiness Review
September 2016	MS C
September 2016	LRIP 1 Contract Award
December 2016	Conducted an Operational Assessment in support of MS C
December 2016	Completed flight test for IFC 2 software build demonstrating air vehicle performance, sensor and communication/network functionality
May 2017	LRIP 2 Contract Award
1st Quarter FY 2018	Delivered SDTA aircraft and supporting ground station assets
November 2017	IFC 4 CDR
November 2017	Redesignated from ACAT ID to ACAT IC
December 2017	LRIP 3 Contract Award
2nd Quarter FY 2018	Baseline entrance into OT-C1
January 2019	Start of IFC 4 System III Testing
March 2019	Interim Sustaining Engineering Support (SES) Contract Award
April 2019	LRIP Lot 3 IFC 4 In Line Modification, (forward fit of B13, B14, B15) Award
April 2019	B7 delivered to VUP-19 at Point Mugu
May 2019	First Project Arrangement under the MQ-4C Triton Development, Production and Sustainment (DPS) Memorandum of Understanding (MOU) for development of a sense and avoid capability was signed
May 2019	LRIP Lot 5 AAC Contract Award
June 2019	OT-C1 Complete

July 2019	BOA IFC 4 Retrofit kits and Install delivery order (B8, B9, B10, B11, MB5, MB7) Contract Award
July 2019	LRIP IFC 4 In-line Modification for LRIP Lot 2 UA B12 Contract Award
August 2019	IFC 4 Development Contract Definitization
October 2019	Due Regard Alternate Means Of Compliance (DRAMOC) signed.
December 2019	LRIP 4 Contract Award
December 2019	LRIP 5 Contract Award
January 2020	EOC milestone reached with 2 baseline Aircraft deployed to Forward Operating Base (FOB)

Threshold Breaches

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

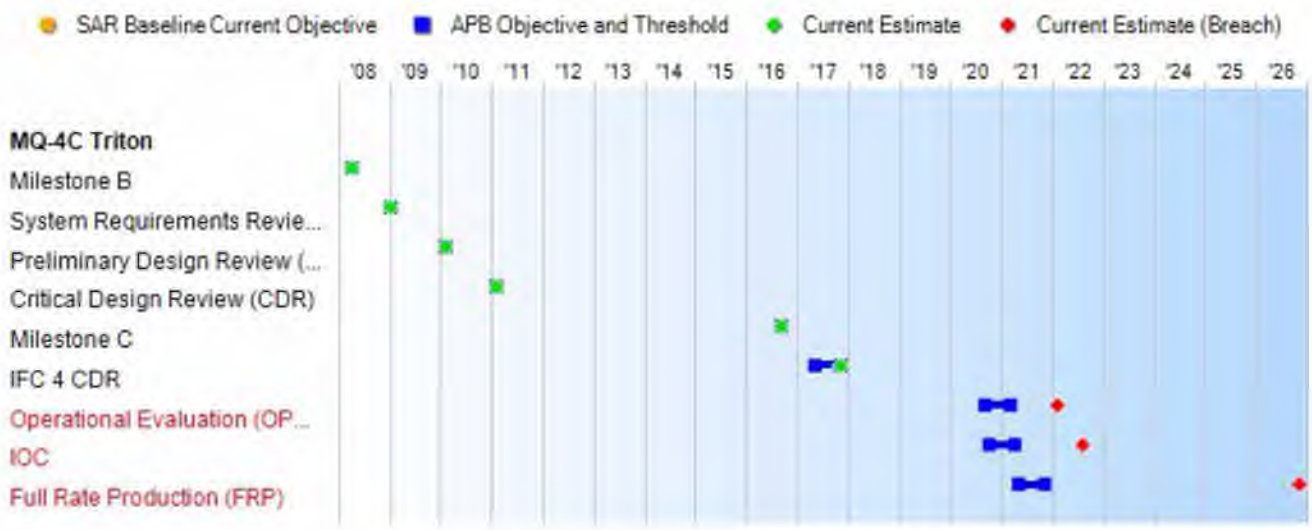
Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The schedule breach is caused by the movement of the Initial Operational Capability (IOC) from 3Q FY2021 to 4Q FY 2022 as a result of the late discovery and correction of baseline performance deficiencies for co-site and electromagnetic interference, late IFC-4 contract award, and the technical complexities of the integration of new multiple intelligence (Multi-INT) sensors and architecture.

The RDT&E cost breach is caused by the movement of the IOC from 3Q FY2021 to 4Q FY 2022. The change to IOC required a re-phasing of funding across the FYDP to accommodate developmental changes required to correct baseline performance deficiencies for co -site and electromagnetic interference as well as complete integration of Multi-INT sensors and architecture. These adjustments also resulted in changes in the test schedule and added funding in FY 2026 that was not reflected in the previous Selected Acquisition Report. Additionally, the MQ-4C Triton Modernization Program Element 0305421N includes $142.4M of non-MDAP funding that is currently budgeted in the MDAP Project Unit.

Schedule



Schedule Events					
Events	**SAR Baseline Production Estimate**	**Current APB Production Objective/Threshold**		**Current Estimate**	
Milestone B	Apr 2008	Apr 2008	Apr 2008	Apr 2008	
System Requirements Review (SRR)	Jan 2009	Jan 2009	Jan 2009	Jan 2009	
Preliminary Design Review (PDR)	Feb 2010	Feb 2010	Feb 2010	Feb 2010	
Critical Design Review (CDR)	Feb 2011	Feb 2011	Feb 2011	Feb 2011	
Milestone C	Sep 2016	Sep 2016	Sep 2016	Sep 2016	
IFC 4 CDR	May 2017	May 2017	Nov 2017	Nov 2017	
Operational Evaluation (OPEVAL) Start	Sep 2020	Sep 2020	Mar 2021	**Feb 2022**[1]	(Ch-1)
IOC	Oct 2020	Oct 2020	Apr 2021	**Aug 2022**[1]	(Ch-2)
Full Rate Production (FRP)	May 2021	May 2021	Nov 2021	**Nov 2026**[1]	(Ch-3)

[1] *APB Breach*

Change Explanations

(Ch-1) The current estimate ~~for~~ OPEVAL has changed from November 2020 to February 2022 due primarily to late discovery and correction of baseline performance deficiencies ~~for~~ co-site and electromagnetic interference, late IFC-4 contract award, and the technical complexities of the integration of new multiple intelligence (Multi-INT) sensors and architecture.
(Ch-2) The current estimate ~~for~~ IOC has changed from April 2021 to August 2022 due primarily to late discovery and correction of baseline performance deficiencies ~~for~~ co-site and electromagnetic interference, late IFC-4 contract award, and the technical complexities of the integration of new multiple intelligence (Multi-INT) sensors and architecture.
(Ch-3) The current estimate ~~for~~ FRP has changed from July 2021 to November 2026 due primarily to the lack of procurement of systems (UA, MOB, FOB) in FY21 and FY22. This delay allows sufficient time to evaluate readiness ~~for~~ FRP decision after Production Pause.

Notes

Schedule estimates in this report are pre-decisional pending an approved APB.

Acronyms and Abbreviations

APN - Aircraft Procurement Navy
EOC - Early Operational Capability
FOB - Forward Operating Base
IFC - Integrated Functional Capability
INT - Intelligence
MOB - Main Operating Base
UA - Unmanned Aircraft

Performance

Performance Characteristics					
SAR Baseline Production Estimate	**Current APB Production Objective/Threshold**		**Demonstrated Performance**	**Current Estimate**	
Persistent multi-sensor maritime ISR at mission radius					
On station 24 hrs a day / 7 days a week for 30 consecutive days with an ETOS of >=95%	On station 24 hrs a day / 7 days a week for 30 consecutive days with an ETOS of >=95%	On station 24 hrs a day for 7 consecutive days with ETOS of >=80%	ETOS of ~.89 (Estimated)	On station 24 hrs a day / 7 days a week for 7 consecutive days with an ETOS of >=88% at a mission radius of 2,000 nm with multi UA capability.	(Ch-1)
Level of Interoperability 1-5					
BLOS and LOS from MOB/ FOB (Land Based) MCS	BLOS and LOS from MOB/ FOB (Land Based) MCS	BLOS and LOS from the MOB (Land Based) MCS	BLOS and LOS from MOB (Land Based) MCS (LOI 1-5)	BLOS and LOS from MOB (Land Based) MCS	
UA Mission Radius					
>=3,000 nm	>=3,000 nm	>=2,000 nm	2,400 nm	>=2,000 nm	
Level Of Interoperability 2 Capability					
LOS/BLOS multi-ISR payload reception to Maritime Forces	LOS/BLOS multi-ISR payload reception to Maritime Forces	LOS, ISR payload sensor data reception to Maritime Forces afloat (CVN, LHA/LHD)	LOS/BLOS multi-ISR payload reception to Maritime Forces	LOS, ISR payload sensor data reception to Maritime Forces afloat (CVN, LHA/LHD)	
Net Ready					
IAW CJCSI 6212.01D	IAW CJCSI 6212.01D	IAW CJCSI 6212.01D	IAW CJCSI 5123-01G, CJCSI 3170.01I and the JCIDS Manual (Estimated)	IAW CJCSI 5123-01G, CJCSI 3170.01I and the JCIDS Manual	
Operational Availability					
>=0.9	>=0.9	>=0.7 at IOT&E >=0.8 at IOC plus two years	0.89 (Estimated)	>=0.86	

Classified Performance information is provided in the classified annex to this submission.

Requirements Reference

CDD in lieu of CPD dated August 2, 2016

Change Explanations

(Ch-1) Added wording "with multi UA capability" to the end of the current estimate for Persistent multi-sensor maritime ISR at mission radius.

Acronyms and Abbreviations

BLOS - Beyond Line of Sight
CJCSI - Chairman of the Joint Chiefs of Staff Instruction
CVN - Aircraft Carrier Nuclear
ETOS - Effective Time On Station
FOB - Forward Operating Base
hrs - hours
IAW - In Accordance With
IOT&E - Initial Operational Test & Evaluation
ISR - Intelligence, Surveillance, and Reconnaissance
JCIDS - Joint Capabilities Integration Development System
LHA - Amphibious Assault Ship (General Purpose)
LHD - Amphibious Assault Ship (Multi Purpose)
LOI - Level of Interoperability
LOS - Line of Sight
MCS - Mission Control System
MOB - Main Operating Base
nm - nautical miles
UA - Unmanned Aircraft

Track to Budget

RDT&E

Appn		BA	PE		
Navy	1319	07	0305205N		
	Project		**Name**		
	4020		MQ-4C Triton	(Shared)	(Sunk)
Navy	1319	07	0305220N		
	Project		**Name**		
	4020		MQ-4C Triton		
Navy	1319	07	0305421N		
	Project		**Name**		
	2939		RQ-4 Modernization		

Procurement

Appn		BA	PE		
Navy	1506	04	0305220N		
	Line Item		**Name**		
	0442		MQ-4 Triton		
Navy	1506	05	0305220N		
	Line Item		**Name**		
	0596		MQ-4 Series		
Navy	1506	06	0305220N		
	Line Item		**Name**		
	0605		Spares and Repair Parts	(Shared)	

MILCON

Appn		BA	PE		
Navy	1205	01	0203176N		
	Project		**Name**		
	00207655		BAMS Mission Control Complex		(Sunk)
Navy	1205	01	0212176N		
	Project		**Name**		
	00207662		BAMS Mission Control System		(Sunk)
Navy	1205	02	0212176N		
	Project		**Name**		
	00620240		Triton Mission Control Facility		(Sunk)
Navy	1205	01	0212176N		
	Project		**Name**		
	69232577		Triton Forward Operating Base 3rd Fleet		
	69232593		BAMS Consolidated Maintenance Hangar		(Sunk)

	C1002960	BAMS Operational Facilities	(Sunk)
Navy	1205 01	0712876N	
	Project	**Name**	
	62995407	BAMS Triton Hangar and Operations Facility	(Sunk)
Navy	1205 01	0805976N	
	Project	**Name**	
	69232607	Triton Avionics and Fuel Systems Trainer	(Sunk)
Navy	1205 01	0815976N	
	Project	**Name**	
	00207153	BAMS UAS Operator Training Facility	(Sunk)
	41557625	BAMS Forward Operational and Maintenance Hangar	(Sunk)
	63042900	BAMS Maintenance Training Facility	(Sunk)
	C1002154	Triton Forward Operating Base Hangar	(Sunk)
Navy	1205 01	0816376N	
	Project	**Name**	
	0428A263	BAMS Test and Evaluation Facility	(Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2016 $M			BY 2016 $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	5383.5	5383.5	5921.9	5978.9[1]	5341.0	5341.0	6042.5
Procurement	9357.5	9357.5	10293.3	9704.5	11348.6	11348.6	12072.1
Flyaway	--	--	--	7242.2	--	--	9150.9
Recurring	--	--	--	6583.2	--	--	8387.2
Non Recurring	--	--	--	659.0	--	--	763.7
Support	--	--	--	2462.3	--	--	2921.2
Other Support	--	--	--	1976.0	--	--	2397.7
Initial Spares	--	--	--	486.3	--	--	523.5
MILCON	323.3	323.3	355.6	334.0	337.5	337.5	356.8
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	15064.3	15064.3	N/A	16017.4	17027.1	17027.1	18471.4

[1] *APB Breach*

Current APB Cost Estimate Reference

ICE dated September 21, 2016

Cost Notes

No cost estimate for the program has been completed in the previous year. The DoD Component Cost Estimate will be updated as part of the APB.

Total Quantity			
Quantity	**SAR Baseline Production Estimate**	**Current APB Production**	**Current Estimate**
RDT&E	4	4	5
Procurement	66	66	65
Total	70	70	70

Quantity Notes

Leading up to the program's Milestone C decision, the Navy and Northrop Grumman Corporation (NGC) entered into an agreement to share cost growth on the System Development and Demonstration contract by utilizing NGC capital contributions to offset future Navy budget requirements. As part of these contributions, NGC provided an Unmanned Aircraft to the Navy at no cost that they had previously built with private capital. This aircraft will be modified to the Multiple Intelligence configuration and used in development before being delivered to the fleet and offsetting one of the planned Aircraft Procurement, Navy funded aircraft procurements. Total aircraft quantity remains at 70.

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	4826.6	197.2	189.9	212.2	215.3	189.0	172.6	39.7	6042.5
Procurement	2690.6	591.7	166.8	101.8	680.4	648.6	738.4	6453.8	12072.1
MILCON	281.8	0.0	0.0	0.0	0.0	75.0	0.0	0.0	356.8
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2021 Total	7799.0	788.9	356.7	314.0	895.7	912.6	911.0	6493.5	18471.4
PB 2020 Total	7740.2	907.3	680.8	801.6	804.4	842.4	786.7	4896.5	17459.9
Delta	58.8	-118.4	-324.1	-487.6	91.3	70.2	124.3	1597.0	1011.5

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	5	0	0	0	0	0	0	0	0	5
Production	0	12	2	0	0	4	4	5	38	65
PB 2021 Total	5	12	2	0	0	4	4	5	38	70
PB 2020 Total	5	12	2	2	3	5	5	4	32	70
Delta	0	0	0	-2	-3	-1	-1	1	6	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
		TY $M					
Fiscal Year	Quantity	End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	17.9
2005	--	--	--	--	--	--	39.3
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	26.2
2008	--	--	--	--	--	--	83.1
2009	--	--	--	--	--	--	420.4
2010	--	--	--	--	--	--	438.1
2011	--	--	--	--	--	--	525.6
2012	--	--	--	--	--	--	549.8
2013	--	--	--	--	--	--	612.7
2014	--	--	--	--	--	--	374.8
2015	--	--	--	--	--	--	449.4
2016	--	--	--	--	--	--	473.7
2017	--	--	--	--	--	--	266.0
2018	--	--	--	--	--	--	317.8
2019	--	--	--	--	--	--	231.8
2020	--	--	--	--	--	--	197.2
2021	--	--	--	--	--	--	189.9
2022	--	--	--	--	--	--	212.2
2023	--	--	--	--	--	--	215.3
2024	--	--	--	--	--	--	189.0
2025	--	--	--	--	--	--	172.6
2026	--	--	--	--	--	--	39.7
Subtotal	5	--	--	--	--	--	6042.5

Annual Funding 1319 | RDT&E | Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 2016 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2004	--	--	--	--	--	--	21.9
2005	--	--	--	--	--	--	46.8
2006	--	--	--	--	--	--	--
2007	--	--	--	--	--	--	29.6
2008	--	--	--	--	--	--	92.1
2009	--	--	--	--	--	--	459.9
2010	--	--	--	--	--	--	472.2
2011	--	--	--	--	--	--	553.3
2012	--	--	--	--	--	--	569.3
2013	--	--	--	--	--	--	627.9
2014	--	--	--	--	--	--	378.7
2015	--	--	--	--	--	--	448.5
2016	--	--	--	--	--	--	464.4
2017	--	--	--	--	--	--	256.1
2018	--	--	--	--	--	--	298.9
2019	--	--	--	--	--	--	213.8
2020	--	--	--	--	--	--	178.3
2021	--	--	--	--	--	--	168.3
2022	--	--	--	--	--	--	184.4
2023	--	--	--	--	--	--	183.4
2024	--	--	--	--	--	--	157.9
2025	--	--	--	--	--	--	141.3
2026	--	--	--	--	--	--	31.9
Subtotal	5	--	--	--	--	--	5978.9

Annual Funding 1506 | Procurement | Aircraft Procurement, Navy							
Fiscal Year	Quantity	TY $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2015	--	72.0	--	--	72.0	--	72.0
2016	4	402.1	--	43.2	445.3	161.2	606.5
2017	2	269.7	--	125.5	395.2	197.1	592.3
2018	3	351.2	--	51.7	402.9	297.2	700.1
2019	3	324.5	--	125.7	450.2	269.5	719.7
2020	2	178.2	--	91.0	269.2	322.5	591.7
2021	--	--	--	13.0	13.0	153.8	166.8
2022	--	--	--	--	--	101.8	101.8
2023	4	460.4	--	82.1	542.5	137.9	680.4
2024	4	484.7	--	43.0	527.7	120.9	648.6
2025	5	588.5	--	11.1	599.6	138.8	738.4
2026	4	502.9	--	49.2	552.1	168.4	720.5
2027	4	516.3	--	10.0	526.3	191.2	717.5
2028	4	525.5	--	10.2	535.7	164.9	700.6
2029	4	535.3	--	10.4	545.7	76.0	621.7
2030	4	545.6	--	10.6	556.2	77.5	633.7
2031	4	550.5	--	10.7	561.2	79.1	640.3
2032	4	561.6	--	10.9	572.5	80.7	653.2
2033	4	573.1	--	11.1	584.2	81.2	665.4
2034	4	537.4	--	11.5	548.9	82.8	631.7
2035	2	407.7	--	42.8	450.5	18.7	469.2
Subtotal	65	8387.2	--	763.7	9150.9	2921.2	12072.1

Annual Funding 1506 | Procurement | Aircraft Procurement, Navy							
Fiscal Year	Quantity	BY 2016 $M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2015	--	70.9	--	--	70.9	--	70.9
2016	4	388.2	--	41.7	429.9	155.7	585.6
2017	2	255.3	--	118.8	374.1	186.6	560.7
2018	3	326.4	--	48.1	374.5	276.2	650.7
2019	3	295.8	--	114.6	410.4	245.5	655.9
2020	2	159.2	--	81.3	240.5	288.2	528.7
2021	--	--	--	11.4	11.4	134.7	146.1
2022	--	--	--	--	--	87.4	87.4
2023	4	387.7	--	69.1	456.8	116.1	572.9
2024	4	400.1	--	35.5	435.6	99.8	535.4
2025	5	476.3	--	9.0	485.3	112.3	597.6
2026	4	399.0	--	39.0	438.0	133.7	571.7
2027	4	401.6	--	7.8	409.4	148.7	558.1
2028	4	400.8	--	7.8	408.6	125.7	534.3
2029	4	400.2	--	7.8	408.0	56.8	464.8
2030	4	399.9	--	7.8	407.7	56.8	464.5
2031	4	395.6	--	7.7	403.3	56.8	460.1
2032	4	395.7	--	7.7	403.4	56.8	460.2
2033	4	395.9	--	7.7	403.6	56.0	459.6
2034	4	363.9	--	7.8	371.7	56.1	427.8
2035	2	270.7	--	28.4	299.1	12.4	311.5
Subtotal	65	6583.2	--	659.0	7242.2	2462.3	9704.5

This budget reflects a production pause in FY 2021 and FY 2022 of MQ-4C Triton UAS deferring further procurement of the Multi-INT configuration until FY 2023. End Item Related Recurring Flyaway costs reflected in FY 2021 with no End Item quantities listed in FY 2021 includes Aircraft Procurement, Navy, Budget Activity 5 funding for the procurement of hardware to convert a FOB to the Multi-INT configuration and for installation costs to convert two FOBs to the Multi-INT configuration.

Cost Quantity Information 1506 | Procurement | Aircraft Procurement, Navy		
Fiscal Year	**Quantity**	**End Item Recurring Flyaway (Aligned With Quantity) BY 2016 $M**
2015	--	--
2016	4	406.5
2017	2	255.3
2018	3	325.9
2019	3	310.2
2020	2	198.0
2021	--	--
2022	--	--
2023	4	324.2
2024	4	392.5
2025	5	476.2
2026	4	398.9
2027	4	401.7
2028	4	400.8
2029	4	400.2
2030	4	399.9
2031	4	395.6
2032	4	395.7
2033	4	395.9
2034	4	399.5
2035	2	306.2
Subtotal	65	6583.2

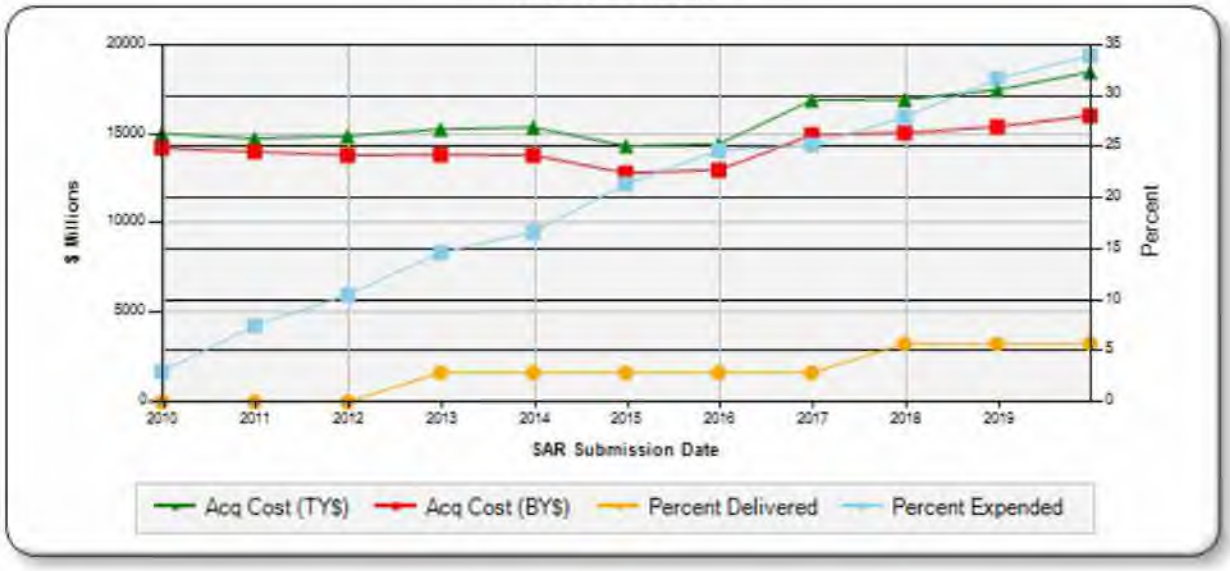
Annual Funding 1205 | MILCON | Military Construction, Navy and Marine Corps	
Fiscal Year	TY $M Total Program
2011	33.0
2012	4.5
2013	65.0
2014	55.5
2015	--
2016	51.9
2017	71.9
2018	--
2019	--
2020	--
2021	--
2022	--
2023	--
2024	75.0
Subtotal	356.8

Annual Funding 1205 | MILCON | Military Construction, Navy and Marine Corps	
Fiscal Year	**BY 2016 $M** **Total Program**
2011	34.0
2012	4.6
2013	65.1
2014	54.8
2015	--
2016	48.9
2017	66.5
2018	--
2019	--
2020	--
2021	--
2022	--
2023	--
2024	60.1
Subtotal	334.0

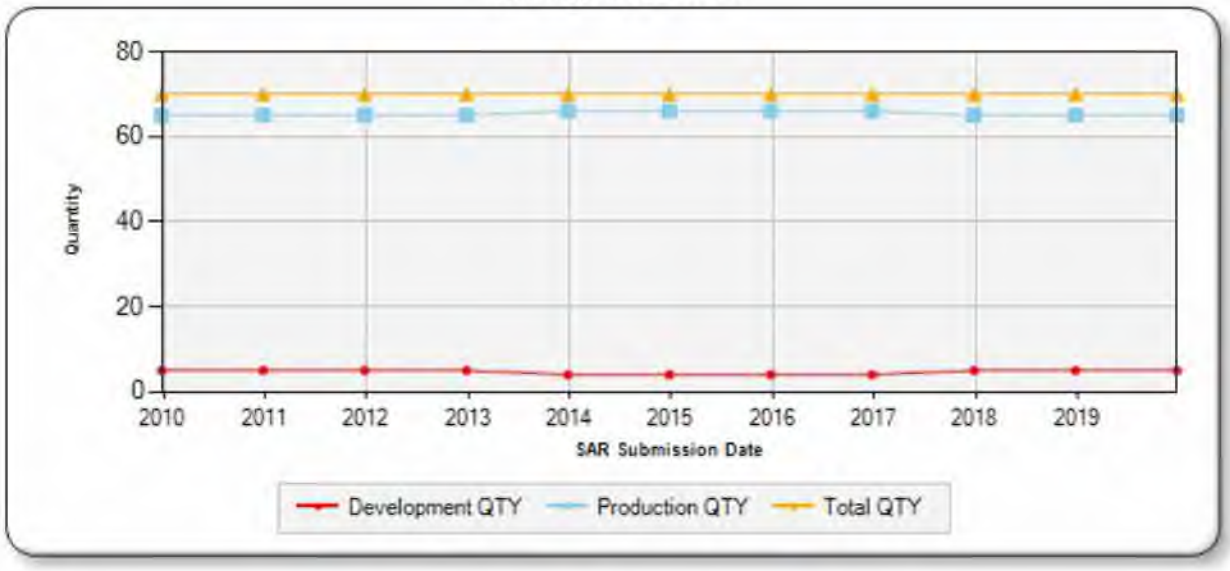
Charts

MQ-4C Triton first began SAR reporting in December 2009

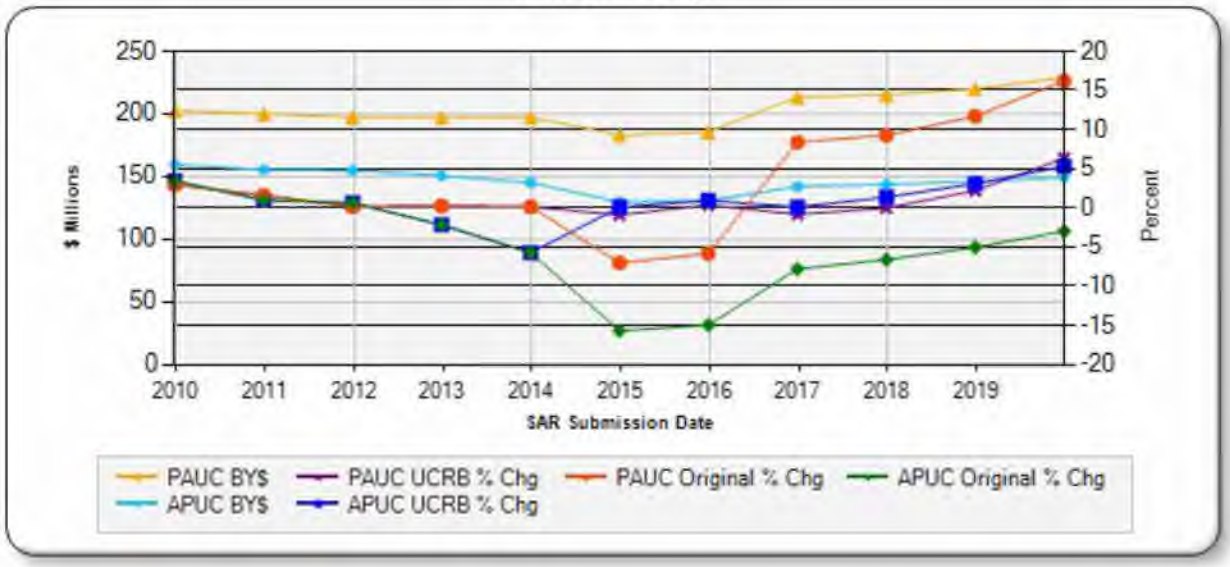
Program Acquisition Cost - MQ-4C Triton
Base Year 2016 $M



Quantity - MQ-4C Triton



Unit Cost - MQ-4C Triton
Base Year 2016 $M



Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	4/18/2008	9/22/2016
Approved Quantity	10	18
Reference	Milestone B ADM	Gate 6/Configuration Steering Board (CSB) ADM
Start Year	2013	2013
End Year	2015	2020

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the establishment of an initial production base for the system and an orderly and efficient increase in the production rate. The increase to 18 LRIP aircraft was authorized due to a change of FRP to 4th Quarter FY 2021. With the latest schedule update and production pause, FRP moves to 1st Quarter FY 2026. It is anticipated that there will be at least one additional LRIP buy of 4 UAs that will keep the total LRIP quantity at 18. The program will require MDA approval if additional LRIP procurements are necessary.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Description
Germany	4/2/2015		4.0	Agreement number GY-P-GPT is an active technical services case which provides technical data on the MQ-4C Triton.
Australia	8/1/2013		5.0	Agreement number AT-P-GTJ is an active technical services case which provides technical data on the MQ-4C Triton.

Notes

In June of 2018, the USN entered into a cooperative program with the Commonwealth of Australia (CoA) for the development, production and sustainment of the MQ-4C Triton UAS. The Memorandum of Agreement was signed on June 19, 2018 and details Australia's planned system procurements and financial responsibilities. Australia's first Procurement Request currently covers the procurement for 2 of 6 air vehicles, and all necessary ground systems. The first Project Arrangement (PA-1) was signed May 29, 2019 for a Sense and Avoid capability. An FMS Case is currently in development to support export of all COMSEC and GPS gear needed for the Australian UAS procured under the DPS MOU. The program office is also executing a Technical Services Case with Germany to provide technical information on the MQ-4C Triton UAS and to develop an Airworthiness Qualification Plan (AQP) to increase the likelihood of obtaining a permanent flight clearance within German regulations. This AQP was signed in April 2018. A Letter of Offer and Acceptance (LOA) was offered in August 2018 for the procurement of three Air Vehicles, one Main Operating Base (MOB), and one Forwarding Operating Base (FOB). The offer expiration date was extended to December 2019 to allow for signature in case Germany was able to secure sufficient funding this Calendar year. In January 2020, Germany officially announced they will not pursue the MQ-4C Triton variant and instead will likely fill their capability gap with a manned system. Additional interest is being expressed by Canada, New Zealand and the United Kingdom.

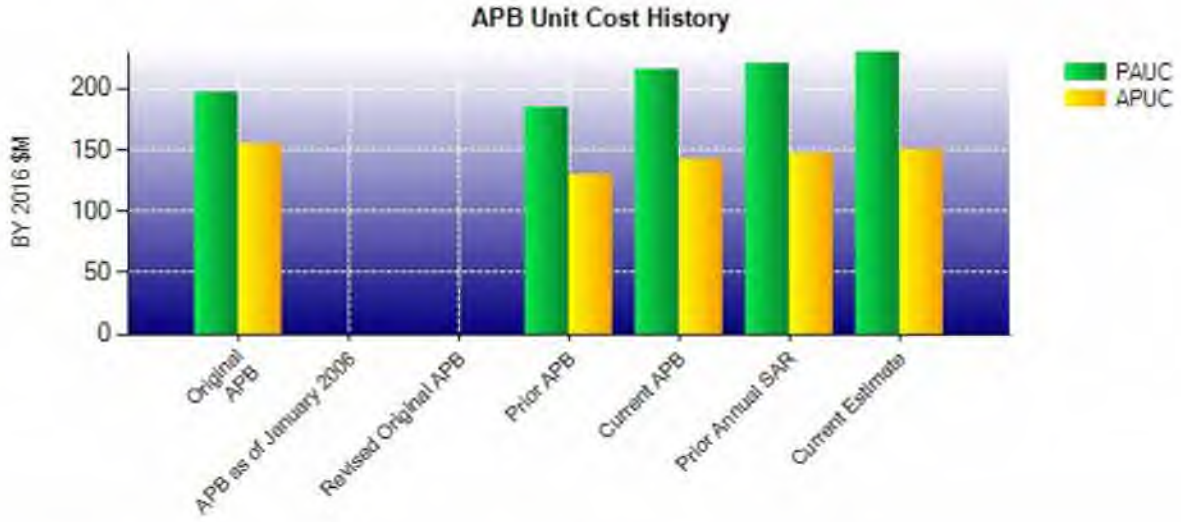
Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 $M Current UCR Baseline (Dec 2016 APB)	BY 2016 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	15064.3	16017.4	
Quantity	70	70	
Unit Cost	215.204	228.820	+6.33
Average Procurement Unit Cost			
Cost	9357.5	9704.5	
Quantity	66	65	
Unit Cost	141.780	149.300	+5.30

Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2016 $M Original UCR Baseline (Feb 2009 APB)	BY 2016 $M Current Estimate (Dec 2019 SAR)	% Change
Program Acquisition Unit Cost			
Cost	13783.4	16017.4	
Quantity	70	70	
Unit Cost	196.906	228.820	+16.21
Average Procurement Unit Cost			
Cost	10002.5	9704.5	
Quantity	65	65	
Unit Cost	153.885	149.300	-2.98



APB Unit Cost History					
Item	Date	BY 2016 $M		TY $M	
		PAUC	APUC	PAUC	APUC
Original APB	Feb 2009	196.906	153.885	216.747	177.317
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	Jul 2014	184.743	129.664	207.763	156.288
Current APB	Dec 2016	215.204	141.780	243.244	171.948
Prior Annual SAR	Dec 2018	219.927	146.129	249.427	177.852
Current Estimate	Dec 2019	228.820	149.300	263.877	185.725

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	
216.747	-5.878	1.731	22.407	24.911	7.156	0.000	-23.830	26.497	243.244

Current SAR Baseline to Current Estimate (TY $M)									
PAUC Production Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
243.244	0.626	-1.415	4.561	0.000	11.954	0.000	4.907	20.633	263.877

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	
177.317	-5.578	-0.850	23.765	8.085	-5.007	0.000	-25.784	-5.369	171.948

Current SAR Baseline to Current Estimate (TY $M)									
APUC Production Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
171.948	0.526	1.121	3.817	0.000	3.028	0.000	5.285	13.777	185.725

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 2008	Apr 2008	Apr 2008
Milestone C	N/A	May 2013	Sep 2016	Sep 2016
IOC	N/A	Dec 2015	Oct 2020	Aug 2022
Total Cost (TY $M)	N/A	15172.3	17027.1	18471.4
Total Quantity	N/A	70	70	70
PAUC	N/A	216.747	243.244	263.877

Cost Variance

Summary TY $M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Production Estimate)	5341.0	11348.6	337.5	17027.1
Previous Changes				
Economic	+3.5	+59.9	+2.2	+65.6
Quantity	--	-99.1	--	-99.1
Schedule	-26.8	-37.9	--	-64.7
Engineering	--	--	--	--
Estimating	+244.2	+192.6	-2.1	+434.7
Other	--	--	--	--
Support	--	+96.3	--	+96.3
Subtotal	+220.9	+211.8	+0.1	+432.8
Current Changes				
Economic	+3.8	-25.7	+0.1	-21.8
Quantity	--	--	--	--
Schedule	+79.0	+286.0	+19.0	+384.0
Engineering	--	--	--	--
Estimating	+397.8	+4.2	+0.1	+402.1
Other	--	--	--	--
Support	--	+247.2	--	+247.2
Subtotal	+480.6	+511.7	+19.2	+1011.5
Total Changes	+701.5	+723.5	+19.3	+1444.3
Current Estimate	6042.5	12072.1	356.8	18471.4

Summary BY 2016 $M				
Item	**RDT&E**	**Procurement**	**MILCON**	**Total**
SAR Baseline (Production Estimate)	5383.5	9357.5	323.3	15064.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	-69.3	--	-69.3
Schedule	-23.8	-31.3	--	-55.1
Engineering	--	--	--	--
Estimating	+215.4	+167.8	-1.9	+381.3
Other	--	--	--	--
Support	--	+73.7	--	+73.7
Subtotal	+191.6	+140.9	-1.9	+330.6
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+64.1	+43.8	+12.5	+120.4
Engineering	--	--	--	--
Estimating	+339.7	+2.2	+0.1	+342.0
Other	--	--	--	--
Support	--	+160.1	--	+160.1
Subtotal	+403.8	+206.1	+12.6	+622.5
Total Changes	+595.4	+347.0	+10.7	+953.1
Current Estimate	5978.9	9704.5	334.0	16017.4

Previous Estimate: December 2018

RDT&E	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+3.8
Revised estimate to reflect extended Period of Performance on IFC 4 contract. (Schedule)	+64.1	+79.0
Adjustment for current and prior escalation. (Estimating)	-2.0	-2.3
Revised estimate to reflect Congressional mark to Sense and Avoid for concurrency. (Estimating)	-15.3	-16.9
Revised estimate to include Triton In The Fight capability. (Estimating)	+115.0	+138.0
Revised estimate to complete IFC 4 capability to IOC. (Estimating)	+161.6	+184.7
Revised estimate for the software support activity (SSA) Software Integration Lab (SIL). (Estimating)	+22.6	+26.1
Revised estimate to reflect B1 Conversion to Multi-Intelligence configuration. (Estimating)	+57.8	+68.2
RDT&E Subtotal	+403.8	+480.6

Procurement	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	-25.7
Stretch-out of procurement buy profile due to program extension by two years resulting in quantity realignment of two MQ-4Cs from FY 2021 to FY 2034 and three MQ-4Cs from FY 2022 to FY 2034 and FY 2035. (Schedule)	0.0	+198.1
Additional Schedule Variance associated with moving a total of 5 aircraft from FY 2021 and FY 2022 to FY 2034 and FY 2035. (Schedule)	+43.8	+87.9
Adjustment for current and prior escalation. (Estimating)	+3.0	+3.3
Revised estimate to include in-line production change to Multi-Intelligence configuration for aircraft B12. (Estimating)	+17.4	+18.2
Revised estimate to reflect the application of new inflation indices. (Estimating)	+14.1	+18.0
Revised estimate to realign ground segment procurement to FY 2026. (Estimating)	-30.3	-35.3
Updated estimate to reflect revised Advance Procurement stategy. (Estimating)	-2.0	0.0
Adjustment for current and prior escalation. (Support)	+2.1	+2.3
Increase in Other Support resulting from production extension of two years and depot standup realignment to FY2026 and beyond. (Support)	+183.1	+274.5
Decrease in Initial Spares due to revised sparing strategy. (Support)	-25.1	-29.6
Procurement Subtotal	+206.1	+511.7

MILCON	$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+0.1
Schedule variance resulting from re-phase of Triton Forward Operating Base from FY 2021 to FY 2024. (Schedule)	+12.5	+19.0
Adjustment for current and prior escalation. (Estimating)	+0.1	+0.1

MILCON Subtotal	+12.6	+19.2

Contracts

General Notes

The program is reporting all CLINs on the System Development and Demonstration and LRIP contracts individually to increase transparency as each individual effort is over $40M TY.

Contract Identification

Appropriation: RDT&E
Contract Name: Triton UAS SDD Contract FTA CLIN
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 17066 Goldentop Rd
San Diego, CA 92150
Contract Number: N00019-08-C-0023/403
Contract Type: Cost (CR)
Award Date: July 13, 2016
Definitization Date: July 13, 2016

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
69.5	N/A	0	69.5	N/A	0	77.9	110.9

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (11/22/2019)	-11.2	-6.8
Previous Cumulative Variances	-6.3	-7.5
Net Change	-4.9	+0.7

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to additional efforts for Shear/Moment/Torsion testing and assembly associated with full scale fatigue test.

The favorable net change in the schedule variance is due to the completion of Landing Gear Fatigue pre-test activities.

Contract Identification

Appropriation: Procurement

Contract Name: Triton UAS LRIP Contract LRIP 1 CLIN

Contractor: Northrop Grumman Systems Corporation

Contractor Location: 17066 Goldentop Rd
San Diego, CA 92150

Contract Number: N00019-15-C-0002

Contract Type: Fixed Price Incentive(Firm Target) (FPIF)

Award Date: September 27, 2016

Definitization Date: September 27, 2016

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
331.5	343.4	3	331.5	343.4	3	332.5	331.5

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (4/26/2019)	-1.0	-3.0
Previous Cumulative Variances	+5.2	-5.6
Net Change	-6.2	+2.6

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to Air Vehicle production and Main Operating Base (MOB) / Forward Operating Base (FOB) materials.

The favorable net change in the schedule variance is due to schedule recovery with material deliveries.

Contract Identification

Appropriation: Procurement

Contract Name: Triton UAS LRIP Contract LRIP 2 CLIN

Contractor: Northrop Grumman Systems Corporation

Contractor Location: 17066 Goldentop Rd
San Diego, CA 92150

Contract Number: N00019-15-C-0002/201

Contract Type: Fixed Price Incentive(Firm Target) (FPIF)

Award Date: May 16, 2017

Definitization Date: May 16, 2017

Contract Price							
Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
353.3	365.9	3	364.0	377.0	3	377.0	377.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to B12 ECP contract modifications.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (11/22/2019)	+8.4	-6.2
Previous Cumulative Variances	+9.1	-3.0
Net Change	-0.7	-3.2

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to supplier quality and Triumph Wing deliveries.

The unfavorable net change in the schedule variance is due to late material deliveries.

Contract Identification

Appropriation: Procurement
Contract Name: Triton UAS LRIP 3 Contract
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 17066 Goldentop Rd
San Diego, CA 92127
Contract Number: N00019-17-C-0018
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: December 28, 2017
Definitization Date: May 24, 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
303.1	314.1	3	316.1	324.7	3	319.8	319.8

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications for IFC 4 inline ECP and IFC 4 install harness kit.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (11/22/2019)	+1.3	-16.4
Previous Cumulative Variances	+1.8	-0.9
Net Change	-0.5	-15.5

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to Air Vehicle integration.

The unfavorable net change in the schedule variance is due to late material issuance.

Notes

The initial contract price changed in order to correct the information in the last SAR as it only included one CLIN.

Contract Identification

Appropriation: Procurement
Contract Name: Triton UAS LRIP Contract LRIP 4
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 17066 Goldentop Road
San Diego, CA 92127-2412
Contract Number: N00019-18-C-1028
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: May 16, 2018
Definitization Date: December 20, 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
296.1	304.0	3	296.1	304.0	3	304.0	296.1

Cost and Schedule Variance Explanations

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

General Contract Variance Explanation

Contract award December 20, 2019. Reporting will not start until April 2020.

Contract Identification

Appropriation: Procurement
Contract Name: Triton UAS LRIP Contract LRIP 5
Contractor: Northrop Grumman Systems Corporation
Contractor Location: 17066 Goldentop Road
San Diego, CA 92127-2412
Contract Number: N00019-19-C-0008
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: May 29, 2019
Definitization Date: December 21, 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
193.8	199.9	2	193.8	199.9	2	199.9	193.8

Cost and Schedule Variance Explanations

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

General Contract Variance Explanation

Contract award December 21, 2020. Reporting will not start until September 2020.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	4	4	5	80.00%
Production	0	0	65	0.00%
Total Program Quantity Delivered	4	4	70	5.71%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	18471.4	Years Appropriated	17
Expended to Date	6264.8	Percent Years Appropriated	53.13%
Percent Expended	33.92%	Appropriated to Date	8587.9
Total Funding Years	32	Percent Appropriated	46.49%

The above data is current as of December 31, 2019.

Notes

The total quantity of 70 includes 1 test asset (Fatigue Test Article), 1 stricken mishap aircraft (B6) and 68 fleet assets.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	December 20, 2016
Source of Estimate:	CAPE ICE
Quantity to Sustain:	68
Unit of Measure:	Aircraft
Service Life per Unit:	20.00 Years
Fiscal Years in Service:	FY 2018 - FY 2048

The average monthly flight hour utilization rate is 256.2 flight hours/month/aircraft beginning at IOC, and the average annual flight hour utilization rate is 3,074.4 flight hours/year/aircraft. Primary Authorized Aircraft is 20, and these 20 aircraft are to be distributed equally across five orbits. The program is estimated to have a five year ramp up period, followed by a 20 year service period, followed by a four year ramp down period, and after accounting for the specific months of delivery and attrition, this results in 450.572 aircraft years. The predicted attrition rate of the Unmanned Aircraft is four per 100,000 flight hours. The quantity of aircraft to sustain is 68, comprised of three operationalized System Demonstration Test Article aircraft and 65 production aircraft. The program will not sustain the Fatigue Test Article (FTA) (B4) and the Mishap aircraft (B6). Current estimate aligned with Milestone C. Program is updating O&S estimate as part of the updated APB associated with the Program Deviation Report.

Sustainment Strategy

The MQ-4C Triton UAS logistics focuses on total platform supportability to include air vehicle, mission control, information technology (e.g., networks) and payload sustainment across the program life cycle. The Triton Product Support team is organized and executing the plan to establish organic supply support, repair capability, and sustaining engineering, to include Software Support, that will meet future operational readiness requirements and operating cost objectives. The prime contractor is providing Interim Contractor Support as the organic infrastructure is being established during Early Operational Capability (EOC) in FY 2020.

Antecedent Information

No Antecedent. The MQ-4C Triton is projected to fly significantly more hours than the closest analogous airframe and has different missions, different concept of operations, and different payloads; resulting in substantially different projected avionics repair costs (the next major O&S cost driver after the number of flight hours).

Annual O&S Costs BY2016 $M		
Cost Element	**MQ-4C Triton Average Annual Cost Per Aircraft**	**No Antecedent (Antecedent) N/A**
Unit-Level Manpower	4.601	0.000
Unit Operations	1.764	0.000
Maintenance	19.093	0.000
Sustaining Support	1.697	0.000
Continuing System Improvements	4.053	0.000
Indirect Support	1.654	0.000
Other	0.000	0.000
Total	32.862	--

Item	Total O&S Cost $M			
	MQ-4C Triton			No Antecedent (Antecedent)
	Current Production APB Objective/Threshold		Current Estimate	
Base Year	14806.7	16287.4	14806.7	0.0
Then Year	20551.1	N/A	20551.1	0.0

Equation to Translate Annual Cost to Total Cost

Total Aircraft O&S = Unitized cost * number of operational aircraft years
($14,806.7M = $32.862M * 450.572 aircraft years)

O&S Cost Variance		
Category	**BY 2016 $M**	**Change Explanations**
Prior SAR Total O&S Estimates - Dec 2018 SAR	14806.7	
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	14806.7	

Disposal Estimate Details

Date of Estimate: December 20, 2016
Source of Estimate: CAPE ICE
Disposal/Demilitarization Total Cost (BY 2016 $M): 17.5

Disposal of attrition aircraft is included in the Disposal estimate.