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Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-590



Global Positioning System III Follow-On Production (GPS III F)

As of FY 2020 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

UNCLASSIFIED

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Sensitivity Originator

No originator information is available at this time.

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

Global Positioning System III Follow-On Production (GPS IIIF)

DoD Component

Air Force

Responsible Office

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References

SAR Baseline (Development Estimate)

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated September 12, 2018

Approved APB

Component Acquisition Executive (CAE) Approved Acquisition Program Baseline (APB) dated September 12, 2018

Mission and Description

The Global Positioning System (GPS) is a satellite-based radio navigation system developed and delivered by Air Force Space Command's Space and Missile Systems Center/Global Positioning Systems Directorate. GPS provides satellite signals to military and civil users worldwide to determine accurate Position, Navigation and Timing (PNT). GPS provides strategic and tactical support to the following DoD missions: Joint Operations by providing capabilities for PNT; Command, Control, Communications, and Intelligence; Special Operations; Military Operations in Urban Terrain; Defense-Wide Mission Support; Air Mobility; and Space Launch Orbital Support. GPS III Follow-On (GPS IIIIF) complies with section 2281 of title 10, United States Code (USC), ensuring the continued sustainment and operation of GPS for military and civilian purposes, and section 50112 of title 51, USC, continuing as an international standard available on a continuous worldwide basis free of direct user fees.

GPS IIIIF is an Acquisition Category IB program that, in concert with the GPS III program, comprises the next generation of space vehicles (SVs) providing significant enhancements to modernize the constellation originally delivered under the Navstar GPS program. GPS IIIIF will deliver the next block of GPS III satellites beyond the first 10 GPS III SVs.

GPS IIIIF will provide new capabilities to meet increased demands of both military and civilian users. Building on the technical baseline of GPS III satellites, the program will provide increased anti-jam capabilities for the military with Regional Military Protection capability. It also will add other new capabilities by hosting a Search-and-Rescue GPS payload designed to assist with the global search-and-rescue mission area and enable precision ranging measurements by hosting a Laser Retro-reflector Array. It will address the consolidation of telemetry, tracking, and commanding frequencies by enabling compliance with the Unified S-Band capabilities. Finally, the program will host a redesigned Nuclear Detonation Detection System (NDS) solution with a lower overall size and weight requirement.

The GPS IIIIF program provides a Standard Positioning Service to a broad spectrum of civil users, including the four civil signals (L1 C/A, L1C, L2C, and L5) flown on GPS III satellites. The L1C signal is compatible with the European Galileo satellite navigation system signal, E1. L1C is also compatible with those signals planned for broadcast on Japan's Quasi-Zenith Satellite System (QZSS), a system meant to augment GPS services. This common civil signal will be jointly broadcast by up to 60 satellites from the GPS, Galileo, and QZSS constellations, further increasing the accuracy and availability of user PNT solutions. The program also benefits the civil community by hosting laser retroreflectors, used to refine the International Terrestrial Reference Frame, and particle sensors, used for space-based environmental monitoring.

Consistent with the program's support for military users, the GPS IIIIF program provides Precise Positioning Service (PPS) for military operations and force enhancement. It also provides increased anti-jam power to the earth coverage Military-Code signals and anti-exploitation techniques in order to prevent unauthorized use of the GPS PPS signal. In addition, the program will support the United States NDS mission for worldwide monitoring and detection of nuclear events, as well as the international Cospas-Sarsat Search and Rescue mission for detection and location of emergency beacons, both via hosted payloads.

The GPS IIIIF SVs build upon the GPS III program's approach to respond rapidly to warfighter capability requirements. The GPS IIIIF program will also focus on space vehicle affordability, capability and future requirements, and resiliency. The Air Force is using its research laboratories to mature mission related capabilities and technologies (e.g. advanced clocks, amplifiers, crosslinks) to inform future PNT architectures.

Executive Summary

Program Highlights Since Last Report

The MDA approved Milestone B certification on September 12, 2018. The certification included waivers granted for the requirements in section 2366(a)(3)(L) as it pertains to the development of an Independent Technical Risk Assessment and in 2366(a)(1) for the requirement of a Preliminary Design Review.

The GPS Program Office completed development contract award on September 26, 2018. The value at award is \$1.5B and includes non-recurring engineering, satellite simulators, and Space Vehicles 11-12. The contract award kick off meeting occurred October 17-18, 2018. The team also successfully conducted kickoff of the Integrated Baseline Review (IBR) on November 6, 2018, followed by the first Program Management Review with Lockheed Martin November 27, 2018. CY 2019 efforts will primarily focus on completing the IBR and executing the Critical Design Review campaign; culminating with Milestone C in CY 2020.

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
March 2018	GPS IIIF CDD approved.
August 2018	GPS IIIF SCP approved.
September 2018	The GPS IIIF program obtained Milestone B certification and APB approval on September 12, 2018.
September 2018	GPS IIIF awarded a competitively-procured contract on September 26, 2018 to Lockheed Martin Space. The Fixed Price Incentive/Award Fee contract includes non-recurring engineering, satellite simulators, and Space Vehicles 11-12.

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 Development Estimate	Current APB Development Objective/Threshold		Current Estimate	
GPS IIIIF Milestone B	Jul 2018	Jul 2018	Jan 2019	Sep 2018	
GPS IIIIF Critical Design Review	Sep 2020	Sep 2020	Mar 2021	Mar 2020	
GPS IIIIF Milestone C	Dec 2020	Dec 2020	Jun 2021	Jun 2020	(Ch-1)
GPS IIIIF SV11 AFL	Jan 2028	Jan 2028	Jul 2028	Feb 2026	
GPS IIIIF SV12 AFL	Oct 2028	Oct 2028	Apr 2029	Aug 2026	

Change Explanations

(Ch-1) GPS IIIIF Milestone C went from September 2020 to June 2020 due to executing to the updated post award program plan.

Acronyms and Abbreviations

AFL - Available for Launch
 GPS - Global Positioning System
 SV - Space Vehicle

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold	Demonstrated Performance	Current Estimate	
Backward Compatibility				
All modifications made to the existing GPS Space Segment and Control Segment shall allow continued operation of existing ICD-GPS-200 and 700, ICD-GPS-800, IS-GPS-705, and SS-GPS-001 compliant UE and continued operation of legacy receivers (to include Federal augmentation system receivers).	All modifications made to the existing GPS Space Segment and Control Segment shall allow continued operation of existing ICD-GPS-200 and 700, ICD-GPS-800, IS-GPS-705, and SS-GPS-001 compliant UE and continued operation of legacy receivers (to include Federal augmentation system receivers).	(T=O) All modifications made to the existing GPS Space Segment and Control Segment shall allow continued operation of existing ICD-GPS-200 and 700, ICD-GPS-800, IS-GPS-705, and SS-GPS-001 compliant UE and continued operation of legacy receivers (to include Federal augmentation system receivers).	TBD	All modifications made to the existing GPS Space Segment and Control Segment shall allow continued operation of existing ICD-GPS-200 and 700, ICD-GPS-800, IS-GPS-705, and SS-GPS-001 compliant UE and continued operation of legacy receivers (to include Federal augmentation system receivers).
User Range Error (meters)				
.2	.2	1.1	TBD	.2
Position and Time Transfer Integrity				
.0001	.0001	(T=O) .0001	TBD	.0001
Satellite Availability				
0.984	0.984	(T=O) 0.984	TBD	0.984
Sustainment (Operational) Availability 5.1.4.1				
Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	(T=O) Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	TBD	Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP
Sustainment (Materiel) Availability 5.1.4.2				
Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	(T=O) Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP	TBD	Achievement of the Availability of Position Accuracy KPP and Time Transfer Accuracy KPP thresholds satisfies this KPP
Regional Military Protection				

Each GPS III Follow-On satellite shall provide a -140 dBW (measured at a 5-degree minimum user elevation mask angle) regional high-power M-Code signal on both L1 and L2	Each GPS III Follow-On satellite shall provide a -140 dBW (measured at a 5-degree minimum user elevation mask angle) regional high-power M-Code signal on both L1 and L2	(T=O) Each GPS III Follow-On satellite shall provide a -140 dBW (measured at a 5-degree minimum user elevation mask angle) regional high-power M-Code signal on both L1 and L2	TBD	Each GPS III Follow-On satellite shall provide a -140 dBW (measured at a 5-degree minimum user elevation mask angle) regional high-power M-Code signal on both L1 and L2
System Survivability (5.1.2)				
The System Survivability KPP is satisfied by meeting the thresholds of the Availability of Position Accuracy KPP (SS and CS; Position and Time Transfer Integrity KPP (SS and CS)); System Survivability System Survivability KPP and associated CSA (SS and CS)	The System Survivability KPP is satisfied by meeting the thresholds of the Availability of Position Accuracy KPP (SS and CS; Position and Time Transfer Integrity KPP (SS and CS)); System Survivability System Survivability KPP and associated CSA (SS and CS)	(T=O) The System Survivability KPP is satisfied by meeting the thresholds of the Availability of Position Accuracy KPP (SS and CS; Position and Time Transfer Integrity KPP (SS and CS)); System Survivability System Survivability KPP and associated CSA (SS and CS)	TBD	The System Survivability KPP is satisfied by meeting the thresholds of the Availability of Position Accuracy KPP (SS and CS; Position and Time Transfer Integrity KPP (SS and CS)); System Survivability System Survivability KPP and associated CSA (SS and CS)

Requirements Reference

CDD dated March 20, 2018

Change Explanations

None

Acronyms and Abbreviations

CS - Control Segment
 CSA - Cyber Survivability Attributes
 dBW - decibel watt
 GPS - Global Positioning System
 ICD - Interface Control Documents
 IS - Interface Specification
 M-Code - Military Code
 O - Objective
 SS - Space Segment
 T - Threshold
 UE - User Equipment

Track to Budget

RDT&E

Appn	BA	PE	
Air Force	3600	07	1203265F
	Project	Name	
	67A019	GPS III Space Segment (Shared) (Sunk)	
Air Force	3600	05	1203269F
	Project	Name	
	653170	Global Positioning System III - Follow-on	

Procurement

Appn	BA	PE	
Air Force	3021	01	1203269F
	Line Item	Name	
	GPS03C	Global Positioning System III - Follow-on	

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 2018 \$M			BY 2018 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	3160.8	3160.8	3476.9	3144.4	3549.2	3549.2	3549.2
Procurement	6113.0	6113.0	6724.3	6089.0	7222.3	7222.3	7222.3
Flyaway	--	--	--	5062.2	--	--	5947.9
Recurring	--	--	--	5062.2	--	--	5947.9
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	1026.8	--	--	1274.4
Other Support	--	--	--	1026.8	--	--	1274.4
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	9273.8	9273.8	N/A	9233.4	10771.5	10771.5	10771.5

Current APB Cost Estimate Reference

SCP dated August 21, 2018

Cost Notes

If an Independent Cost Estimate, Component Cost Estimate, or Program Office Estimate has been completed for the program in the previous year, list any program risks identified in the estimates, the potential impacts of the risks on program cost, and approaches to mitigate the risks.

The August 21, 2018 SCP was conducted at contract ceiling price; Non-Recurring Engineering SV11-12 and simulators are Fixed Price Incentive Fee/Award Fee (FPIF/AF), SV13-32 are FPIF. This approach is intended to control cost in a manner consistent with the relative maturity of the requirements and technical baseline, production designs, and their associated execution risk.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E		2	2
Procurement		20	20
Total		22	22

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2020 President's Budget / December 2018 SAR (TY\$ M)									
Appropriation	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
RDT&E	202.2	426.9	462.9	279.4	258.0	293.4	284.9	1341.5	3549.2
Procurement	0.0	0.0	414.6	628.5	890.4	897.5	921.5	3469.8	7222.3
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2020 Total	202.2	426.9	877.5	907.9	1148.4	1190.9	1206.4	4811.3	10771.5
	--	--	--	--	--	--	--	--	--

Quantity Summary										
FY 2020 President's Budget / December 2018 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	0	0	1	2	3	3	3	8	20
PB 2020 Total	2	0	0	1	2	3	3	3	8	22
	--	--	--	--	--	--	--	--	--	--

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	2.0
2009	--	--	--	--	--	--	13.1
2010	--	--	--	--	--	--	21.9
2011	--	--	--	--	--	--	21.8
2012	--	--	--	--	--	--	15.0
2013	--	--	--	--	--	--	27.3
2014	--	--	--	--	--	--	13.0
2015	--	--	--	--	--	--	21.3
2016	--	--	--	--	--	--	8.6
2017	--	--	--	--	--	--	23.7
2018	--	--	--	--	--	--	34.5
2019	--	--	--	--	--	--	426.9
2020	--	--	--	--	--	--	462.9
2021	--	--	--	--	--	--	279.4
2022	--	--	--	--	--	--	258.0
2023	--	--	--	--	--	--	293.4
2024	--	--	--	--	--	--	284.9
2025	--	--	--	--	--	--	213.5
2026	--	--	--	--	--	--	191.4
2027	--	--	--	--	--	--	173.7
2028	--	--	--	--	--	--	205.9
2029	--	--	--	--	--	--	89.2
2030	--	--	--	--	--	--	90.9
2031	--	--	--	--	--	--	92.8
2032	--	--	--	--	--	--	94.6
2033	--	--	--	--	--	--	96.6
2034	--	--	--	--	--	--	92.9
Subtotal	2	--	--	--	--	--	3549.2

Annual Funding							
3600 RDT&E Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2018 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2008	--	--	--	--	--	--	2.3
2009	--	--	--	--	--	--	14.9
2010	--	--	--	--	--	--	24.6
2011	--	--	--	--	--	--	24.1
2012	--	--	--	--	--	--	16.3
2013	--	--	--	--	--	--	29.1
2014	--	--	--	--	--	--	13.7
2015	--	--	--	--	--	--	22.2
2016	--	--	--	--	--	--	8.8
2017	--	--	--	--	--	--	23.8
2018	--	--	--	--	--	--	34.0
2019	--	--	--	--	--	--	412.5
2020	--	--	--	--	--	--	438.5
2021	--	--	--	--	--	--	259.5
2022	--	--	--	--	--	--	234.9
2023	--	--	--	--	--	--	261.9
2024	--	--	--	--	--	--	249.3
2025	--	--	--	--	--	--	183.2
2026	--	--	--	--	--	--	161.0
2027	--	--	--	--	--	--	143.2
2028	--	--	--	--	--	--	166.5
2029	--	--	--	--	--	--	70.7
2030	--	--	--	--	--	--	70.6
2031	--	--	--	--	--	--	70.7
2032	--	--	--	--	--	--	70.7
2033	--	--	--	--	--	--	70.7
2034	--	--	--	--	--	--	66.7
Subtotal	2	--	--	--	--	--	3144.4

Annual Funding								
3021 Procurement Space Procurement, Air Force								
Fiscal Year	Quantity	TY \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2020	1	331.5	46.8	--	378.3	36.3	414.6	
2021	2	517.8	47.2	--	565.0	63.5	628.5	
2022	3	742.3	67.7	--	810.0	80.4	890.4	
2023	3	742.3	67.7	--	810.0	87.5	897.5	
2024	3	779.8	52.3	--	832.1	89.4	921.5	
2025	2	527.4	57.5	--	584.9	88.1	673.0	
2026	2	543.8	66.7	--	610.5	121.1	731.6	
2027	2	566.7	69.2	--	635.9	125.0	760.9	
2028	2	587.0	72.4	--	659.4	144.2	803.6	
2029	--	--	14.5	--	14.5	110.0	124.5	
2030	--	--	13.4	--	13.4	70.3	83.7	
2031	--	--	13.7	--	13.7	67.6	81.3	
2032	--	--	14.0	--	14.0	65.3	79.3	
2033	--	--	3.1	--	3.1	62.7	65.8	
2034	--	--	3.1	--	3.1	63.0	66.1	
Subtotal	20	5338.6	609.3	--	5947.9	1274.4	7222.3	

Annual Funding							
3021 Procurement Space Procurement, Air Force							
Fiscal Year	Quantity	BY 2018 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2020	1	306.2	43.2	--	349.4	33.5	382.9
2021	2	468.9	42.7	--	511.6	57.5	569.1
2022	3	659.0	60.1	--	719.1	71.3	790.4
2023	3	646.0	58.9	--	704.9	76.2	781.1
2024	3	665.4	44.6	--	710.0	76.3	786.3
2025	2	441.2	48.1	--	489.3	73.7	563.0
2026	2	446.0	54.7	--	500.7	99.3	600.0
2027	2	455.6	55.6	--	511.2	100.6	611.8
2028	2	462.7	57.1	--	519.8	113.6	633.4
2029	--	--	11.2	--	11.2	85.0	96.2
2030	--	--	10.2	--	10.2	53.2	63.4
2031	--	--	10.2	--	10.2	50.2	60.4
2032	--	--	10.2	--	10.2	47.5	57.7
2033	--	--	2.2	--	2.2	44.8	47.0
2034	--	--	2.2	--	2.2	44.1	46.3
Subtotal	20	4551.0	511.2	--	5062.2	1026.8	6089.0

Low Rate Initial Production

There is no LRIP for this program.

Foreign Military Sales

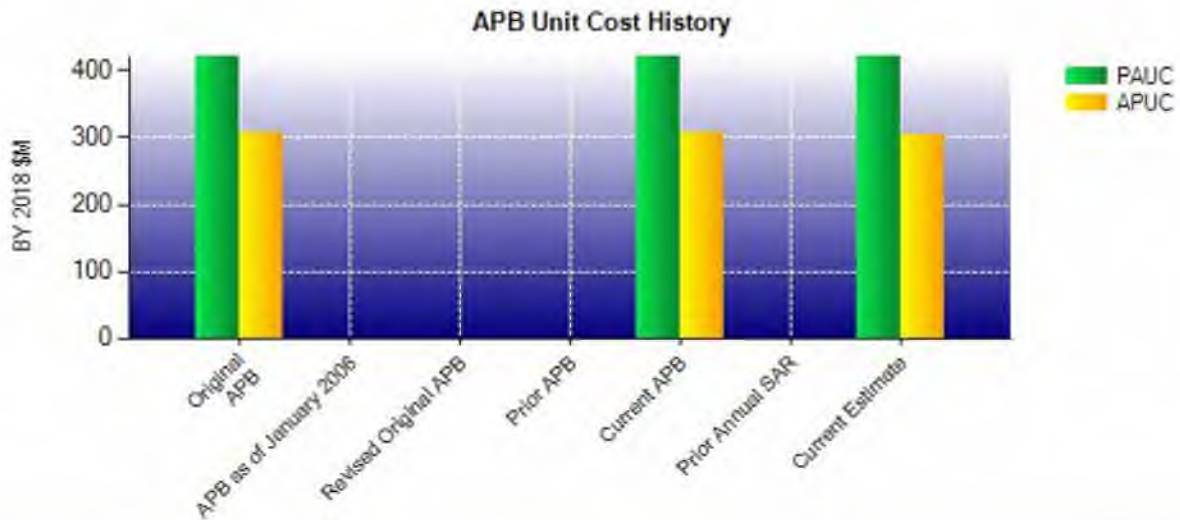
None

Nuclear Costs

None

Unit Cost

Current UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2018 \$M	BY 2018 \$M	% Change
	Current UCR Baseline (Sep 2018 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	9273.8	9233.4	
Quantity	22	22	
Unit Cost	421.536	419.700	-0.44
Average Procurement Unit Cost			
Cost	6113.0	6089.0	
Quantity	20	20	
Unit Cost	305.650	304.450	-0.39
Original UCR Baseline and Current Estimate (Base-Year Dollars)			
Item	BY 2018 \$M	BY 2018 \$M	% Change
	Original UCR Baseline (Sep 2018 APB)	Current Estimate (Dec 2018 SAR)	
Program Acquisition Unit Cost			
Cost	9273.8	9233.4	
Quantity	22	22	
Unit Cost	421.536	419.700	-0.44
Average Procurement Unit Cost			
Cost	6113.0	6089.0	
Quantity	20	20	
Unit Cost	305.650	304.450	-0.39



APB Unit Cost History					
Item	Date	BY 2018 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Sep 2018	421.536	305.650	489.614	361.115
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	Sep 2018	421.536	305.650	489.614	361.115
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	Dec 2018	419.700	304.450	489.614	361.115

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
489.614	1.809	0.000	0.000	0.000	-1.573	0.000	-0.236	0.000	489.614

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
361.115	1.420	0.000	0.000	0.000	-1.160	0.000	-0.260	0.000	361.115

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	Jul 2018	N/A	Sep 2018
Milestone C	N/A	Dec 2020	N/A	Jun 2020
IOC	N/A	N/A	N/A	N/A
Total Cost (TY \$M)	N/A	10771.5	N/A	10771.5
Total Quantity	N/A	22	N/A	22
PAUC	N/A	489.614	N/A	489.614

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3549.2	7222.3	--	10771.5
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	+11.4	+28.4	--	+39.8
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-11.4	-23.2	--	-34.6
Other	--	--	--	--
Support	--	-5.2	--	-5.2
Subtotal	--	--	--	--
Total Changes	--	--	--	--
CE - Cost Variance	3549.2	7222.3	--	10771.5
CE - Cost & Funding	3549.2	7222.3	--	10771.5

Summary BY 2018 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	3160.8	6113.0	--	9273.8
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	-16.4	-19.6	--	-36.0
Other	--	--	--	--
Support	--	-4.4	--	-4.4
Subtotal	-16.4	-24.0	--	-40.4
Total Changes	-16.4	-24.0	--	-40.4
CE - Cost Variance	3144.4	6089.0	--	9233.4
CE - Cost & Funding	3144.4	6089.0	--	9233.4

Previous Estimate: September 2018

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+11.4
Revised estimate due to higher Air Force priorities. (Estimating)	-24.1	-25.0
Revised estimate for Search and Rescue costs. (Estimating)	-2.3	-2.6
Revised estimate to reflect actuals. (Estimating)	-11.5	-10.5
Revised estimate to fund Space Modernization Initiative in FY 2027 and 2028. (Estimating)	+31.3	+38.1
Adjustment for current and prior escalation. (Estimating)	-0.6	-0.7
Revised estimate to reflect application of new outyear inflation. (Estimating)	-9.2	-10.7
RDT&E Subtotal	-16.4	0.0

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+28.4
Revised estimate to reflect application of new outyear inflation (Space Procurement, Air Force). (Estimating)	-19.6	-23.2
Decrease in Other Support to reflect application of new outyear inflation (Space Procurement, Air Force). (Support)	-4.4	-5.2
Procurement Subtotal	-24.0	0.0

Contracts

Contract Identification

Appropriation: RDT&E
Contract Name: Global Positioning System III Follow-On (GPS IIIF)
Contractor: Lockheed Martin Corporation
Contractor Location: 12257 S Wadsworth Blvd
 Littleton, CO 80125
Contract Number: FA8807-18-C-0009/1
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: September 26, 2018
Definitization Date: September 26, 2018

Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1362.1	1499.7	2	1362.1	1499.7	2	1362.1	1499.7

Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/1/2018)	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	2	0.00%
Production	0	0	20	0.00%
Total Program Quantity Delivered	0	0	22	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	10771.5	Years Appropriated	12
Expended to Date	177.5	Percent Years Appropriated	44.44%
Percent Expended	1.65%	Appropriated to Date	629.1
Total Funding Years	27	Percent Appropriated	5.84%

The above data is current as of March 11, 2019.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:

Source of Estimate:

Quantity to Sustain:

Unit of Measure:

Service Life per Unit:

Fiscal Years in Service:

The O&S costs for the GPS IIIF system will be captured in the sustainment of the Next Generation Operational Control System in a future update.

Sustainment Strategy

None

Antecedent Information

For reporting purposes, the antecedent system for this program is GPS III.

Annual O&S Costs BY2018 \$M			
Cost Element	GPS IIIF	Antecedent Item (Antecedent) YYYY	
Unit-Level Manpower	--	--	--
Unit Operations	--	--	--
Maintenance	--	--	--
Sustaining Support	--	--	--
Continuing System Improvements	--	--	--
Indirect Support	--	--	--
Other	--	--	--
Total	--	--	--

Item	Total O&S Cost \$M			
	GPS IIIF			Antecedent Item (Antecedent)
	Current Development APB Objective/Threshold	Current Estimate		
Base Year	N/A	N/A	N/A	N/A
Then Year	N/A	N/A	N/A	0.0

O&S Cost Variance

Category	BY 2018 \$M	Change Explanations
Prior SAR Total O&S Estimates - Sep 2018 SAR	0.0	
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	0.0	

Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2018 \$M):