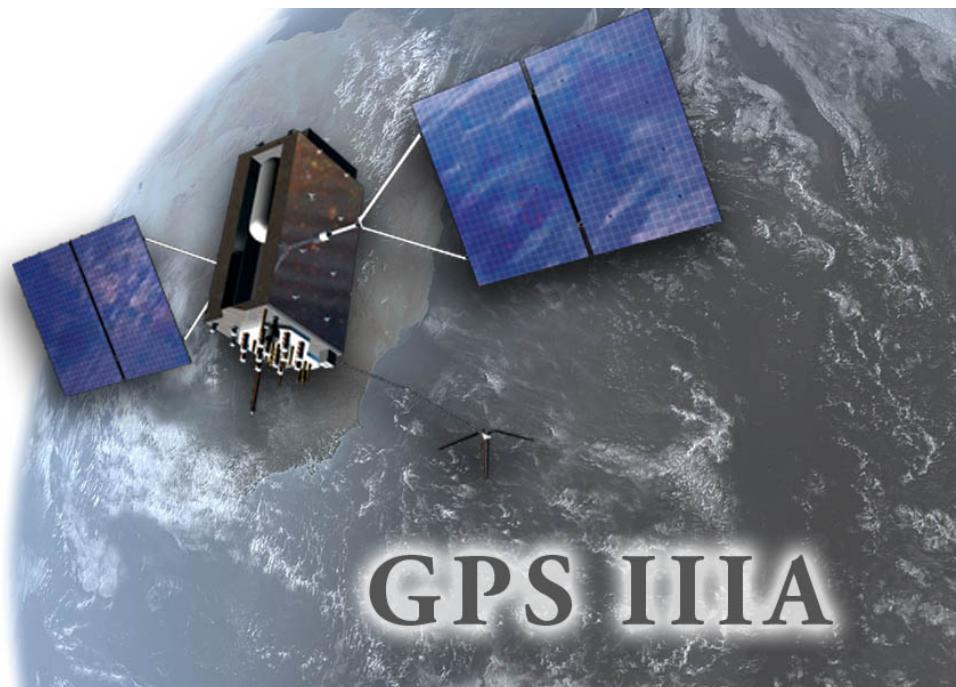




# Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-292



## Global Positioning System III (GPS III)

As of FY 2011 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

## Table of Contents

Common Acronyms and Abbreviations for MDAP Programs .....	3
Program Information .....	5
Responsible Office .....	5
References .....	5
Mission and Description .....	6
Executive Summary .....	7
Threshold Breaches .....	8
Schedule .....	9
Performance .....	11
Track to Budget .....	13
Cost and Funding .....	14
Low Rate Initial Production .....	21
Foreign Military Sales .....	22
Nuclear Costs .....	22
Unit Cost .....	23
Cost Variance .....	26
Contracts .....	29
Deliveries and Expenditures .....	31
Operating and Support Cost .....	32

## Common Acronyms and Abbreviations for MDAP Programs

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

PB - President's Budget  
PE - Program Element  
PEO - Program Executive Officer  
PM - Program Manager  
POE - Program Office Estimate  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
SCP - Service Cost Position  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting  
U.S. - United States  
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

## Program Information

**Program Name**

Global Positioning System (GPS IIIA)

**DoD Component**

AirForce

## Responsible Office

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**Date Assigned:** June 18, 2007

## References

**SAR Baseline (Development Estimate)**

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated May 8, 2008

**Approved APB**

DAE Approved Acquisition Program Baseline (APB) dated May 8, 2008

## Mission and Description

GPS is a satellite-based radio navigation system that provides worldwide military and civil users satellite signals they can process to determine accurate position, velocity, and time. On May 8, 2000, the USD(AT&L) approved entry into the initial modernization efforts for Navstar GPS. GPS III is the next generation space vehicle (SV) that will provide significant enhancements to complete the modernization of the constellation. GPS III complies with 10 United States Code (USC) § 2281, ensuring the continued sustainment and operation of GPS for military and civilian purposes, and 42 USC § 14712, continuing as an international standard available on a continuous worldwide basis free of direct user fees.

The GPS Wing will deliver GPS III satellites in three increments: IIIA, IIIB and IIIC. As captured in a July 23, 2007 Memorandum, the Joint Requirement Oversight Council (JROC) validated and endorsed the GPS III Capability Development Document Increment A, thereby validating the requirements for the GPS IIIA program.

GPS IIIA satellites provide the existing capabilities of the GPS II constellation which consists of several military acquisitions to satisfy military and civil requirements: GPS II, IIA, IIR, Modernized IIR (IIR-M), and IIF. GPS II, IIA and IIR provide basic PNT, civil signal (L1 C/A), Standard Positioning Service, Precise Positioning Service (L1 & L2 P(Y)), and support to the United States Nuclear Detonation (NUDET) Detection System (NDS). GPS IIR-M provides a second civil signal (L2C), Military-code signals (L1M & L2M), and flexible anti-jam power (+7dB). GPS IIF will provide an additional third civil signal (L5).

In addition to these existing capabilities, GPS IIIA satellites provide increased anti-jam power to the earth coverage M-code signals for military users. GPS IIIA satellites will also transmit a new civil signal (L1C), which is compatible with the European Galileo satellite navigation system signal, E1. L1C is also compatible with those signals planned for broadcast on Japan's Quazi-Zenith Satellite System (QZSS), a system meant to augment GPS services. Once implemented, the common civil signal will be jointly broadcast by up to 60 satellites from both GPS and Galileo constellations, further increasing the accuracy and availability of user Position Navigation and Timing (PNT) solutions. In addition, the program will initiate a capability insertion plan to develop, qualify, integrate, demonstrate, and insert future capabilities using a low-risk, high confidence growth path.

The primary GPS IIIA missions are positioning, navigation, and precise time transfer. Via a hosted payload, the program will also support the NDS mission for worldwide monitoring and detection of nuclear events. GPS provides strategic and tactical support to the following Department of Defense (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 provides Precise Positioning Service (PPS) to military operations and force enhancement, anti-exploitation techniques to prevent unauthorized use of the GPS PPS signal, and Standard Positioning Service (SPS) to a broad spectrum of civil users.

## Executive Summary

On October 31, 2008, GPS IIIA successfully completed its Integrated Baseline Review (IBR). The program implemented a comprehensive IBR process that validated the content, integrity and executability of the GPS IIIA baseline, and ensured a low risk and high confidence execution.

GPS IIIA successfully completed its Space Vehicle Preliminary Design Review (PDR) May 18-21, 2009. This significant milestone demonstrated that the technical baseline has been established, requirements are stable and allocated to the appropriate level, the requirements are under configuration control, and the preliminary design meets all KPP's.

As a result of successful PDR completion, GPS IIIA has proceeded into its Critical Design Review (CDR) process which concludes with the Space Vehicle CDR in October 2010. The CDR Phase ensures that detailed design meets requirements and is producible. Successful completion of the CDR Phase will result in the establishment of a traceable and verifiable product baseline. GPSW is on track to meet the APB milestone of 1st SV available for launch in May 2014.

The program office worked with Office of the Under Secretary of Defense (Acquisitions, Technology & Logistics) (OUSD (AT&L)) and Air Force leadership to align acquisition milestones with forthcoming space acquisition guidance under the recently updated DoDI 5000.02. Instead of a Key Decision Point C (KDP-C) decision in FY10, Milestone C would occur as part of the Annual GPS Enterprise Review (AGER) in first quarter of FY11. The Build Approval milestone will also be replaced by a follow-on Production Decision Review. The change in milestones and their Acquisition Program Baseline (APB) schedule dates will not change any developmental reviews or delivery dates.

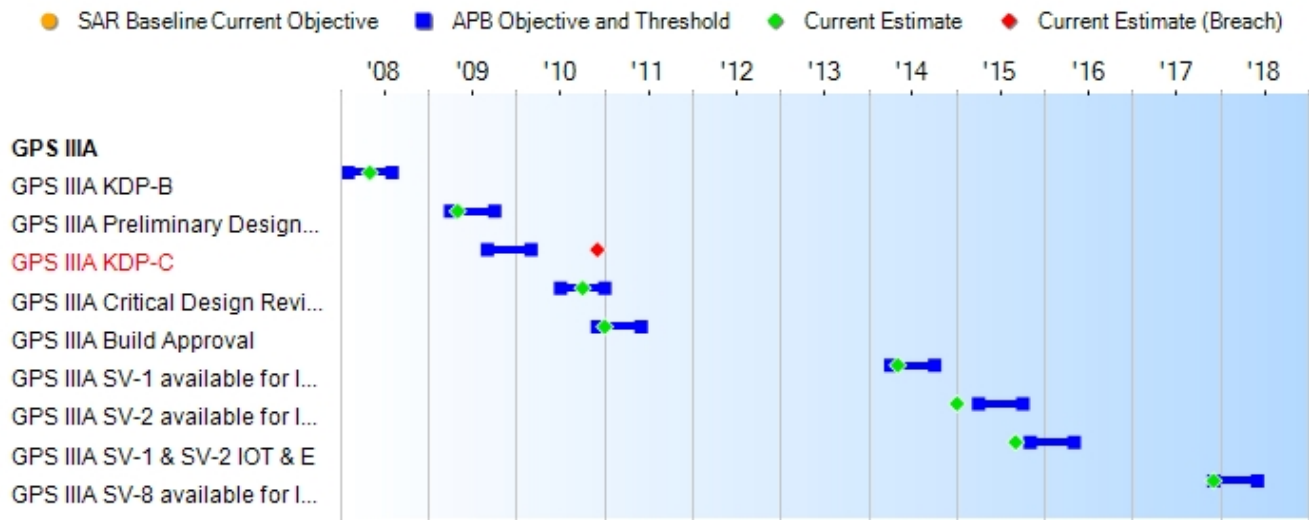
The program does not have any significant software issues at this time.

## Threshold Breaches

APB Breaches		Explanation of Breach
<b>Schedule</b>	<input checked="" type="checkbox"/>	The Key Decision Point-C (KDP-C) milestone is no longer applicable to this program due to new DoDI 5000.02 guidance and has resulted in a schedule breach to the existing Acquisition Program Baseline (APB). Per the results of the Annual GPS Enterprise Review (AGER), an updated APB will replace KDP-C with a Milestone C (MS-C) scheduled after the Critical Design Review (CDR), consistent with the new DoDI 5000.02.
<b>Performance</b>	<input type="checkbox"/>	
<b>Cost</b>	<input type="checkbox"/>	
RDT&E	<input type="checkbox"/>	
Procurement	<input type="checkbox"/>	
MILCON	<input type="checkbox"/>	
Acq O&M	<input type="checkbox"/>	
<b>O&amp;S Cost</b>	<input type="checkbox"/>	
<b>Unit Cost</b>	<input type="checkbox"/>	
PAUC	<input type="checkbox"/>	
APUC	<input type="checkbox"/>	
Nunn-McCurdy Breaches		
<b>Current UCR Baseline</b>		
PAUC	None	
APUC	None	
<b>Original UCR Baseline</b>		
PAUC	None	
APUC	None	



## Schedule



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
GPS IIIA KDP-B	Feb 2008	Feb 2008	Aug 2008	May 2008
GPS IIIA Preliminary Design Review	Apr 2009	Apr 2009	Oct 2009	May 2009
GPS IIIA KDP-C	Sep 2009	Sep 2009	Mar 2010	<b>Dec 2010<sup>1</sup></b> (Ch-1)
GPS IIIA Critical Design Review	Jul 2010	Jul 2010	Jan 2011	Oct 2010 (Ch-2)
GPS IIIA Build Approval	Dec 2010	Dec 2010	Jun 2011	Jan 2011
GPS IIIA SV-1 available for launch	Apr 2014	Apr 2014	Oct 2014	May 2014
GPS IIIA SV-2 available for launch	Apr 2015	Apr 2015	Oct 2015	Jan 2015 (Ch-3)
GPS IIIA SV-1 & SV-2 IOT & E	Nov 2015	Nov 2015	May 2016	Sep 2015 (Ch-3)
GPS IIIA SV-8 available for launch	Dec 2017	Dec 2017	Jun 2018	Dec 2017 (Ch-3)

<sup>1</sup> APB Breach

### Change Explanations

(Ch-1) The current estimate went from October 2009 to December 2010 because the Key Decision Point-C (KDP-C) milestone is no longer applicable to this program due to new DoDI 5000.02 guidance and has resulted in a schedule breach to the existing APB. Per the results of the Annual GPS Enterprise Review (AGER), an updated Acquisition Decision Memorandum (ADM) and APB will replace KDP-C with a Milestone C (MS-C) scheduled after Critical Design Review (CDR) consistent with the new DoDI 5000.02.

(Ch-2) The July 2010 CDR current estimate reported in the June 2008 SAR was based upon the program office's baseline prior to contract award. Following contract award, the contractor's baseline was rolled into the program office's baseline resulting in the current estimate of October 2010.

(Ch-3) The current estimate of SV-2 available for launch changed from May 2015 to January 2015, SV-1 and SV-2 IOT&E went from December 2015 to September 2015 and SV-8 available for launch went from January 2018 to December 2017. These milestones were changed to correct a previous reporting error. In the previous SAR submission, GPS IIIA reported actual launch dates for each space vehicle. In order to remain consistent with our APB, GPS IIIA is now reporting "available for launch" dates.

### Notes

The Build Approval milestone will also be replaced by a follow-on Production Decision Review as per the AGER

### Acronyms and Abbreviations

CDR - Critical Design Review  
GPS - Global Positioning System  
IOT&E - Initial Operational Test & Evaluation  
KDP - Key Decision Point  
SV - Space Vehicle

## Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold	Demonstrated Performance	Current Estimate	
<b>Backward Compatibility</b>				
All modifications made to the existing GPS Space Segment and Control Segment shall allow continued operation of existing ICD-GPS-200 and 700, 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, 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, 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, IS-GPS-705, and SS-GPS-001 compliant User Equipment (UE) and continued operation of legacy receivers (to include Federal augmentation system receivers).
<b>User Range Error (meters)</b>				
.2	.2	1.1	TBD	.2
<b>Position and Time Transfer Integrity</b>				
0.00000001	0.00000001	0.00001	TBD	0.00000001
<b>Net-Ready</b>				
The system must fully support execution of all joint operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations.	The system must fully support execution of all joint operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations.	The system must fully support execution of all 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.	TBD	The system must fully support execution of all joint operational activities identified in the applicable joint and system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations.
<b>Satellite Availability</b>				
0.984	0.984	0.984	TBD	.984
<b>Boosted Earth-Coverage M-Code Power (dBW)</b>				
-148	-148	-153	TBD	-148
<b>Minimum L1C Signal Power</b>				

-157	-157	-157	TBD	-157
------	------	------	-----	------

**Change Explanations**

None

**Acronyms and Abbreviations**

dBW - Decibel-watt  
GPS - Global Positioning System  
ICD - Interface Control Document  
IS - Interface Specifications  
SS - System Specifications

## Track to Budget

### RDT&E

Appn	BA	PE
------	----	----

Air Force 3600 04 0603421F

Project	Name
---------	------

644993

Air Force 3600 07 0305265F

Project	Name
---------	------

67A019

### Procurement

Appn	BA	PE
------	----	----

Air Force 3020 05 0305265F

Line Item	Name
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20

## Cost and Funding

### Cost Summary

Total Acquisition Cost							
Appropriation	BY 2000 \$M			BY 2000 \$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	2036.5	2036.5	2240.2	2196.9	2512.0	2512.0	2684.4
Procurement	1143.4	1143.4	1257.7	1194.2	1490.3	1490.3	1522.5
Flyaway	--	--	--	1046.0	--	--	1333.0
Recurring	--	--	--	1038.4	--	--	1323.0
Non Recurring	--	--	--	7.6	--	--	10.0
Support	--	--	--	148.2	--	--	189.5
Other Support	--	--	--	148.2	--	--	189.5
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	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
Total	3179.9	3179.9	N/A	3391.1	4002.3	4002.3	4206.9

Total Quantity				
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate	
RDT&E		2	2	2
Procurement		6	6	6
Total		8	8	8

## Cost and Funding

### Funding Summary

Appropriation Summary									
FY 2011 President's Budget / December 2009 SAR (TY\$ M)									
Appropriation	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
RDT&E	934.7	423.5	446.3	328.2	287.4	128.9	57.7	77.7	2684.4
Procurement	0.0	0.0	122.5	680.8	496.9	211.6	7.2	3.5	1522.5
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 2011 Total	934.7	423.5	568.8	1009.0	784.3	340.5	64.9	81.2	4206.9
Jun 2008 Total	1067.7	468.0	520.2	996.9	618.0	199.1	51.2	81.2	4002.3
Delta	-133.0	-44.5	48.6	12.1	166.3	141.4	13.7	0.0	204.6

Quantity Summary										
FY 2011 President's Budget / December 2009 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	0	0	0	3	2	1	0	0	6
PB 2011 Total	2	0	0	0	3	2	1	0	0	8
Jun 2008 Total	2	0	0	0	4	2	0	0	0	8
Delta	0	0	0	0	-1	0	1	0	0	0

## Cost and Funding

### Annual Funding By Appropriation

Annual Funding							
3600   RDT&E   Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2002	--	--	--	--	--	--	51.5
2003	--	--	--	--	--	--	39.7
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	21.2
2006	--	--	--	--	--	--	51.4
2007	--	--	--	--	--	--	195.2
2008	--	--	--	--	--	--	196.7
2009	--	--	--	--	--	--	379.0
2010	--	--	--	--	--	--	423.5
2011	--	--	--	--	--	--	446.3
2012	--	--	--	--	--	--	328.2
2013	--	--	--	--	--	--	287.4
2014	--	--	--	--	--	--	128.9
2015	--	--	--	--	--	--	57.7
2016	--	--	--	--	--	--	13.2
2017	--	--	--	--	--	--	8.9
2018	--	--	--	--	--	--	8.9
2019	--	--	--	--	--	--	8.9
2020	--	--	--	--	--	--	8.9
2021	--	--	--	--	--	--	8.9
2022	--	--	--	--	--	--	8.9
2023	--	--	--	--	--	--	7.8
2024	--	--	--	--	--	--	3.3
Subtotal	2	--	--	--	--	--	2684.4



Annual Funding 3600   RDT&E   Research, Development, Test, and Evaluation, Air Force							
Fiscal Year	Quantity	BY 2000 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
2002	--	--	--	--	--	--	49.8
2003	--	--	--	--	--	--	37.9
2004	--	--	--	--	--	--	--
2005	--	--	--	--	--	--	19.2
2006	--	--	--	--	--	--	45.3
2007	--	--	--	--	--	--	167.6
2008	--	--	--	--	--	--	165.6
2009	--	--	--	--	--	--	315.0
2010	--	--	--	--	--	--	348.3
2011	--	--	--	--	--	--	362.3
2012	--	--	--	--	--	--	262.1
2013	--	--	--	--	--	--	225.7
2014	--	--	--	--	--	--	99.5
2015	--	--	--	--	--	--	43.8
2016	--	--	--	--	--	--	9.9
2017	--	--	--	--	--	--	6.5
2018	--	--	--	--	--	--	6.4
2019	--	--	--	--	--	--	6.3
2020	--	--	--	--	--	--	6.2
2021	--	--	--	--	--	--	6.1
2022	--	--	--	--	--	--	6.0
2023	--	--	--	--	--	--	5.2
2024	--	--	--	--	--	--	2.2
Subtotal	2	--	--	--	--	--	2196.9

Annual Funding 3020   Procurement   Missile 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	
2011	--	106.5	--	--	106.5	16.0	122.5	
2012	3	607.8	--	1.2	609.0	71.8	680.8	
2013	2	440.7	--	2.5	443.2	53.7	496.9	
2014	1	168.0	--	5.0	173.0	38.6	211.6	
2015	--	--	--	1.3	1.3	5.9	7.2	
2016	--	--	--	--	--	3.5	3.5	
Subtotal	6	1323.0	--	10.0	1333.0	189.5	1522.5	

Annual Funding 3020   Procurement   Missile Procurement, Air Force								
Fiscal Year	Quantity	BY 2000 \$M						
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program	
2011	--	85.7	--	--	85.7	12.9	98.6	
2012	3	481.1	--	0.9	482.0	56.9	538.9	
2013	2	343.0	--	1.9	344.9	41.9	386.8	
2014	1	128.6	--	3.8	132.4	29.5	161.9	
2015	--	--	--	1.0	1.0	4.4	5.4	
2016	--	--	--	--	--	2.6	2.6	
Subtotal	6	1038.4	--	7.6	1046.0	148.2	1194.2	

Cost Quantity Information		
3020   Procurement   Missile Procurement, Air Force		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 2000 \$M
2011	--	--
2012	3	519.2
2013	2	346.1
2014	1	173.1
2015	--	--
2016	--	--
Subtotal	6	1038.4

## **Low Rate Initial Production**

There is no LRIP for this program.

## **Foreign Military Sales**

None

## **Nuclear Costs**

None

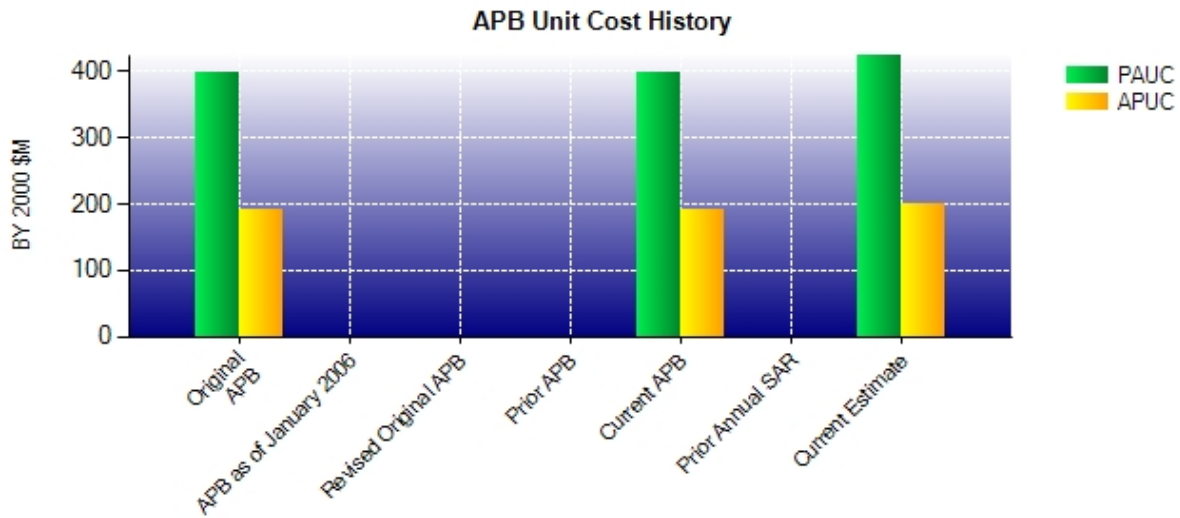
## Unit Cost

### Unit Cost Report

Item	BY 2000 \$M	BY 2000 \$M	% Change
	Current UCR Baseline (May 2008 APB)	Current Estimate (Dec 2009 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	3179.9	3391.1	
Quantity	8	8	
Unit Cost	397.488	423.888	+6.64
<b>Average Procurement Unit Cost</b>			
Cost	1143.4	1194.2	
Quantity	6	6	
Unit Cost	190.567	199.033	+4.44

Item	BY 2000 \$M	BY 2000 \$M	% Change
	Original UCR Baseline (May 2008 APB)	Current Estimate (Dec 2009 SAR)	
<b>Program Acquisition Unit Cost</b>			
Cost	3179.9	3391.1	
Quantity	8	8	
Unit Cost	397.488	423.888	+6.64
<b>Average Procurement Unit Cost</b>			
Cost	1143.4	1194.2	
Quantity	6	6	
Unit Cost	190.567	199.033	+4.44

### Unit Cost History



Item	Date	BY 2000 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	May 2008	397.488	190.567	500.288	248.383
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	May 2008	397.488	190.567	500.288	248.383
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	Dec 2009	423.888	199.033	525.862	253.750

### SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
500.288	-9.463	0.000	0.000	0.000	23.150	0.000	11.888	25.575	525.862

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
248.383	-6.633	0.000	0.000	0.000	-3.850	0.000	15.850	5.367	253.750



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	Feb 2008	N/A	May 2008
Milestone C	N/A	Sep 2009	N/A	Dec 2010
IOC	N/A	N/A	N/A	N/A
Total Cost (TY \$M)	N/A	4002.3	N/A	4206.9
Total Quantity	N/A	8	N/A	8
PAUC	N/A	500.288	N/A	525.862

## Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	2512.0	1490.3	--	4002.3
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	-35.9	-39.8	--	-75.7
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+208.3	-23.1	--	+185.2
Other	--	--	--	--
Support	--	+95.1	--	+95.1
Subtotal	+172.4	+32.2	--	+204.6
Total Changes	+172.4	+32.2	--	+204.6
Current Estimate	2684.4	1522.5	--	4206.9

Summary BY 2000 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	2036.5	1143.4	--	3179.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	--	--	--
Other	--	--	--	--
Support	--	--	--	--
Subtotal	--	--	--	--
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+160.4	-23.8	--	+136.6
Other	--	--	--	--
Support	--	+74.6	--	+74.6
Subtotal	+160.4	+50.8	--	+211.2
Total Changes	+160.4	+50.8	--	+211.2
Current Estimate	2196.9	1194.2	--	3391.1

Previous Estimate: June 2008

RDT&E	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices (Economic)	N/A	-35.9
Adjustment for current and prior escalation (Estimating)	+7.4	+9.1
Realignment of funds from GPS III to Next Generation Operational Control Segment (OCX) (Estimating)	-0.9	-1.0
Actual development contract lower than anticipated (Estimating)	-106.6	-128.2
Congressional Reduction due to delay in contract award of one month (Estimating)	-22.4	-27.0
Small Business Innovative Research and Congressional Reductions (Estimating)	-11.9	-14.3
Zero-Balance Transfer (ZBT) to align FY08-15 RDT&E funds left in other programs when new program element was established (Estimating)	+272.7	+341.6
Revised estimate due to a change in estimating assumptions that resulted in application of inflation (Estimating)	+20.9	+26.8
OCX excess funds were re-aligned to GPS III (Estimating)	+1.2	+1.3
<b>RDT&amp;E Subtotal</b>	<b>+160.4</b>	<b>+172.4</b>

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices (Economic)	N/A	-39.8
Adjustment for current and prior escalation (Estimating)	+0.2	+0.2
Excess funds Zero Balance Transfer (ZBT) moved \$8M of FY08 Advance Procurement for GPS III that into FY08 RDT&E (Estimating)	-6.6	-8.0
Lower requirements identified and re-phasing of requirements from FY11 to FY13 (Estimating)	-17.4	-15.3
Increase in other support for launch and on-orbit operations support and other GPSW support (Support)	+74.6	+95.1
<b>Procurement Subtotal</b>	<b>+50.8</b>	<b>+32.2</b>

## Contracts

### Contract Identification

**Appropriation:** RDT&E  
**Contract Name:** Global Positioning System (GPS) IIIA  
**Contractor:** Lockheed Martin Corporation  
**Contractor Location:** King of Prussia, PA 19406-2902  
**Contract Number:** FA8807-08-C-0010  
**Contract Type:** Cost Plus Incentive Fee (CPIF), Cost Plus Award Fee (CPAF)  
**Award Date:** May 15, 2008  
**Definitization Date:** May 15, 2008

### Contract Price

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1464.0	N/A	2	1464.0	N/A	2	1452.4	1609.4

### Contract Variance

Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/20/2009)	-21.2	-4.4
Previous Cumulative Variances	0.0	0.0
Net Change	-21.2	-4.4

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

The net unfavorable cost variance of \$21.2 million since the inception of the contract is caused by inefficiencies in BUS, Communications Payload (COM), and Navigation Payload (NPE) Integrated Product Teams (IPTs). BUS has required additional resources to complete New Peer Source Review, Engineering Review Board (ERB), and Configuration Control Board (CCB) processes to release specifications, as well as Telemetry, Tracking & Control (TT&C) cost impacts, and increased resources necessary to satisfy MIL STD 1521B design review process for Preliminary Design Review (PDR). COM experienced increased efforts required to definitize suppliers and service agreements, increased resources necessary to satisfy MIL STD 1521B design review process for Preliminary Design Review (PDR), increased Program Management support of unplanned contract actions, as well as increased Material expenditures. NPE has required additional resources to complete Parts, Materials, and Processes (PMP) efforts to produce Technical Operating Report (TOR) compliant Source Control Drawings (SCDs) and requirements changes through Critical Design Review (CDR). In addition, NPE has experienced cost growth due to CDR spec roll efforts and Survivability and Reliability Mission Data Unit (MDU) design tasks, as well as software development.

The net unfavorable schedule variance of \$4.4 million since the inception of the contract is caused by NPE issues with Frequency Electronics Inc (FEI) working under imposed limitations due to lack of compliance with GPS III performance requirements. Also, Assembly Integration and Test (AI&T) experienced delays with the finalization of the Assembly Test and Launch Operations (ATLO) independent review of the Bus Ground Support Equipment (BGSE). In addition, COM has experienced delays in Material ordering and receipt for Special Test Equipment (STE) and Ground Support Equipment (GSE).

**Notes**

The current PM Estimated Price at Complete represents the governments estimated cost for the current GPS IIIA to cover potential developmental risks.

## 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	6	0.00%
Total Program Quantity Delivered	0	0	8	0.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	4206.9	Years Appropriated	9
Expended to Date	918.6	Percent Years Appropriated	39.13%
Percent Expended	21.84%	Appropriated to Date	1358.2
Total Funding Years	23	Percent Appropriated	32.29%

## Operating and Support Cost

### Assumptions and Ground Rules

Cost Estimate Reference:

None

Sustainment Strategy:

None

Antecedent Information:

None

Unitized O&S Costs BY2000 \$K			
Cost Element	GPS IIIA		No Antecedant (Antecedent)
	Avg Annual Cost For 24 Satellite Constellation		
Mission Pay & Allowance	--	--	--
Unit Level Consumption	--	--	--
Intermediate Maintenance	--	--	--
Depot Maintenance	--	--	--
Contractor Support	--	--	--
Sustaining Support	--	--	--
Indirect	--	--	--
Other	--	--	--
Total	--	--	--

Unitized Cost Comments:

None

Item	Total O&S Cost \$M			
	GPS IIIA			No Antecedant (Antecedent)
	Current Development APB Objective/Threshold	Current Estimate		
<b>Base Year</b>	N/A	N/A	N/A	N/A
<b>Then Year</b>	N/A	N/A	N/A	N/A

Total O&S Cost Comment

There are currently no GPS IIIA O&S costs. GPS IIIA On Orbit Support will transition from procurement to O&S following the last launch of GPS IIIA. The program office has not accounted for the future O&S costs in any cost estimate.

### Disposal Estimate Details

Date of Estimate:

Source of Estimate:

Disposal/Demilitarization Total Cost (BY 2000 \$M):