PE NUMBER: 0305265F
PE TITLE: GPS III Space Segment

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	Cost ($ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	0.000	392.276	815.095	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
A019	GPS IIIA	0.000	392.276	425.380	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
A020	OCX	0.000	0.000	389.715	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

Funding from 2 OCX PEs (0603423F and 0603427F) consolidated into separate BPAC in this PE starting in FY10.

(U) A. Mission Description and Budget Item Justification

The Navstar Global Positioning System (GPS) is a space based navigation system that fills validated Joint Service requirements for worldwide, accurate, common grid three dimensional positioning/navigation for military aircraft, ships, and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services. The system is composed of three segments: user equipment (funded under PE 0305164F), space, and a control network. The satellites broadcast high accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation equipment installed in military platforms. The control segment provides daily updates to the navigation messages broadcast from the satellites to maintain system precision in three dimensions to 16 meters spherical error probable worldwide.

Additionally, GPS supports the United States Nuclear Detonation (NUDET) Detection System (NDS) mission, and provides strategic and tactical support to the following Department of Defense (DoD) missions: Joint Operations by providing capabilities for Positioning, Navigation, and Timing (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 IIIA is the next generation space vehicle supporting the Navstar GPS constellation. GPS IIIA space vehicles will deliver significant enhancements, including a new L1C (civil) Galileo-compatible signal, enhanced M-code Earth Coverage power, and a growth path to full warfighter capabilities. GPS III received Phase B approval in May 2008 and has begun the preliminary design phase of development (Phase B). Funds in this PE will support research, development, test and evaluation of two GPS IIIA space vehicles and associated simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. The program includes capability maturation and risk reduction efforts to address and mitigate program cost, schedule and technical challenges. Additionally the program also includes engineering studies and analyses, trade studies, system development, test and evaluation efforts, integrated logistics support products, on orbit support, and mission operations in support of civil applications necessary to support efforts to protect U.S. military and allies' use of GPS.

OCX is the next generation GPS control segment which includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly the GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter effect based operations. Funds will support engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, science and technology, technology development, systems engineering, system development, test and evaluation efforts and mission operations in support

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305265F GPS III Space Segment

of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Additionally, funds will ensure a disciplined Capability Insertion Program plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities.

This program is Budget Activity 7 - Operational System Development

(U) B. Program Change Summary ($ in Millions)

		FY 2008	FY 2009	FY 2010
(U)	Previous President's Budget	0.000	420.342	284.973
(U)	Current PBR/President's Budget	0.000	392.276	815.095
(U)	Total Adjustments	0.000	-28.066	
(U)	Congressional Program Reductions		-27.000	
	Congressional Rescissions		-1.066	
	Congressional Increases			
	Reprogrammings			
	SBIR/STTR Transfer			

(U) Significant Program Changes:

Funding from 2 OCX PEs (0603423F and 0603427F) consolidated into separate BPAC in this PE starting in FY10. -$27.000M Congressional reduction to GPS IIIA in FY09 due to contract award delay. -$1.066 in FY09 for Congressional General Reductions

Exhibit R-2a, RDT&E Project Justification	DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305265F GPS III Space Segment
PROJECT NUMBER AND TITLE: A019 GPS IIIA	

Cost ($ in Millions)		FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
A019	GPS IIIA	0.000	392.276	425.380	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Navstar Global Positioning System (GPS) is a space based navigation system that fills validated Joint Service requirements for worldwide, accurate, common grid three dimensional positioning/navigation for military aircraft, ships, and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services. The system is composed of three segments: user equipment (funded under PE 0305164F), space, and a control network. The satellites broadcast high accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation equipment installed in military platforms. The control segment provides daily updates to the navigation messages broadcast from the satellites to maintain system precision in three dimensions to 16 meters spherical error probable worldwide.

Additionally, GPS supports the United States Nuclear Detonation (NUDET) Detection System (NDS) mission, and provides strategic and tactical support to the following Department of Defense (DoD) missions: Joint Operations by providing capabilities for Positioning, Navigation, and Timing (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 IIIA is the next generation space vehicle supporting the Navstar GPS constellation. GPS IIIA space vehicles will deliver significant enhancements, including a new L1C (civil) Galileo-compatible signal, enhanced M-code Earth Coverage power, and a growth path to full warfighter capabilities. GPS III received Phase B approval in May 2008 and has begun the preliminary design phase of development (Phase B). Funds in this PE will support research, development, test and evaluation of two GPS IIIA space vehicles and associated simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. The program includes capability maturation and risk reduction efforts to address and mitigate program cost, schedule and technical challenges. Additionally the program also includes engineering studies and analyses, trade studies, system development, test and evaluation efforts, integrated logistics support products, on orbit support, and mission operations in support of civil applications necessary to support efforts to protect U.S. military and allies' use of GPS.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2008	FY 2009	FY 2010
(U) Continue GPS IIIA Development	0.000	338.300	373.140
(U) Continue System Engineering & Integration (SE&I)	0.000	5.270	6.780
(U) Continue System Engineering and Technical Support	0.000	18.020	15.868
(U) Continue Program Support	0.000	30.686	29.592
(U) Total Cost	0.000	392.276	425.380

Exhibit R-2a, RDT&E Project Justification		DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE A019 GPS IIIA

(U) C. Other Program Funding Summary ($ in Millions)

	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total Cost
(U) AF RDT&E										
(U) PE 0603421F Global Positioning System (Project 644993; BA-04; R-38)	446.197	0.000	0.000							446.197
(U) PE 0603423F Global Positioning System III Operational Control Segment (Project 64A021; BA-04; R-36)	0.000	306.502	0.000							306.502
(U) Other APPN										
(U) Missile Procurement: PE 030265F, BA-5, P-XX	0.000	0.000	0.000							TBD
(U) Other Procurement: PE 0305265F, BP 83, 836730, P-70	0.000	0.000	0.000							TBD

(U) D. Acquisition Strategy

The Air Force is pursuing a "Block" approach to the GPS III next generation space segment to rapidly respond to warfighter capability requirements. The Block acquisition approach utilizes a disciplined systems engineering approach which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach focuses on mission success and on time delivery. The first block of GPS III satellites, GPS IIIA, will have GPS IIF capabilities plus up to a 10 dB increase in military (M-code) signal power, a new L1C civil signal compatible with the European Galileo and a satellite bus capable of supporting Block B and C capability upgrades.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305265F GPS III Space Segment

PROJECT NUMBER AND TITLE: A019 GPS IIIA

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Block IIIA Development	CPIF/AF	King of Prussia, PA	0.000	0.000		338.300	Nov-08	373.140	Nov-09	Continuing	TBD	
SE&I (SAIC)	CPAF	Huntington Beach, CA	0.000			5.270	Nov-08	6.678	Nov-09	Continuing	TBD	
Modernization/SE & Technical Support	Various	Various	0.000			18.020	Nov-08	16.110	Nov-09	Continuing	TBD	
Subtotal Product Development			0.000	0.000		361.590		395.928		Continuing	TBD	0.000
Remarks:												
(U) Support												
Wing Support	Various	Various	0.000			30.686	Nov-08	29.452	Nov-09	Continuing	TBD	
Subtotal Support			0.000	0.000		30.686		29.452		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		392.276		425.380		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE A019 GPS IIIA

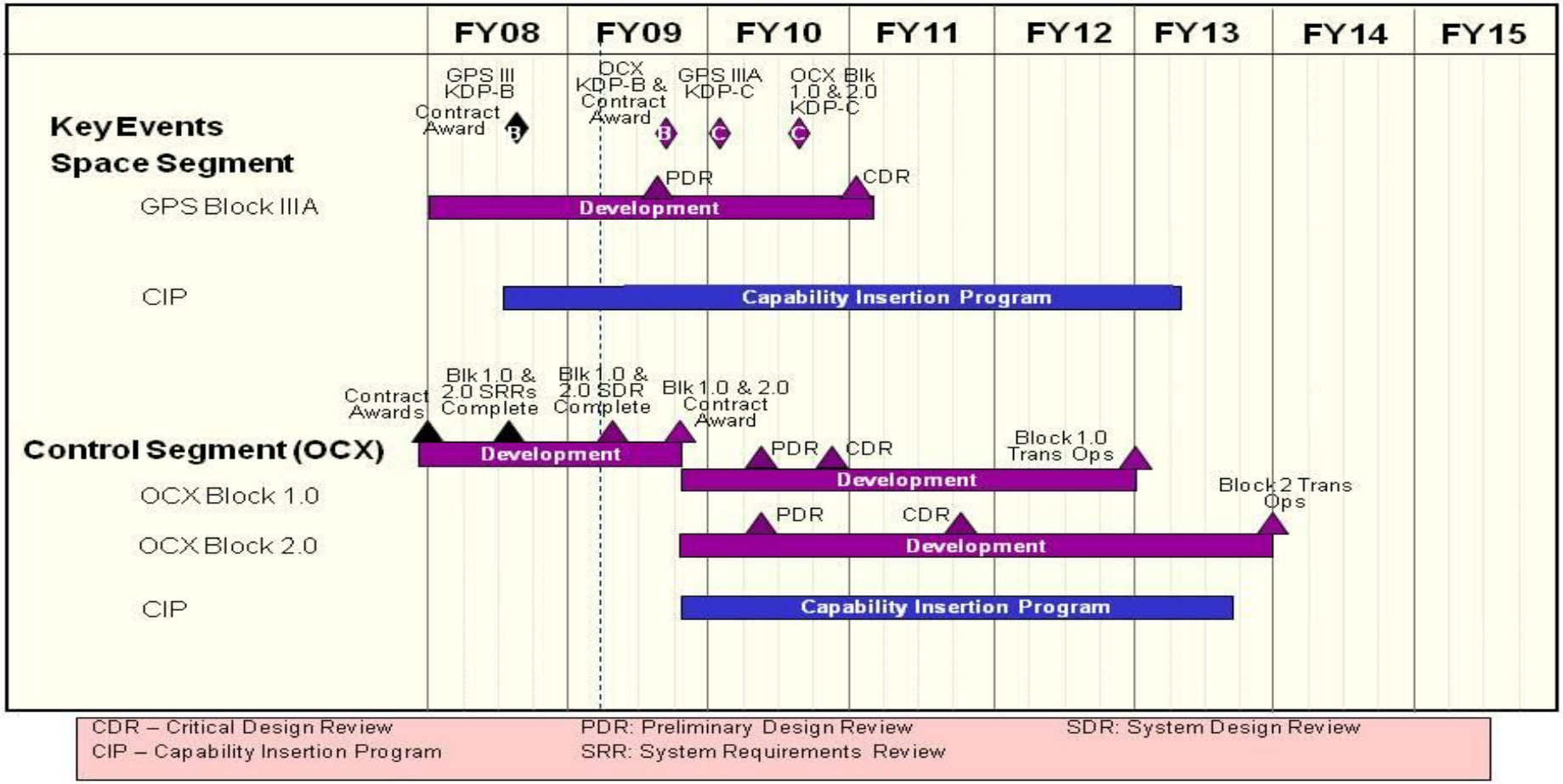

Exhibit R-4a, RDT&E Schedule Detail		DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE: A019 GPS IIIA

(U) Schedule Profile	FY 2008	FY 2009	FY 2010
(U) GPS IIIA Preliminary Design Review (PDR)		3Q	
(U) GPS IIIA KDP-C			1Q

Exhibit R-2a, RDT&E Project Justification

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305265F GPS III Space Segment

PROJECT NUMBER AND TITLE: A020 OCX

Cost ($ in Millions)		FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
A020	OCX	0.000	0.000	389.715	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based position, navigation and time (PNT) distribution system. This Budget Program Activity Code (BPAC) funds Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advance concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly the GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter effect based operations.

Funds will support engineering studies and analyses, architecture engineering studies, trade studies, technology needs forecasting, systems engineering, systems development, test and evaluation efforts and transition to mission operations in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Funds will support science and technology, technology development and systems development efforts.

Funding in this PE/BPAC was previously part of GPS Operational Control Segment Backwards Compatibility (PE 0603427F/64A022) and Global Positioning System III - Operational Control Segment (PE 0603423F/63A021).

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2008	FY 2009	FY 2010
(U) Continue OCX Block I & II Development	0.000	0.000	312.247
(U) Continue SE&I	0.000	0.000	35.103
(U) Continue Program Support	0.000	0.000	42.365
(U) Total Cost	0.000	0.000	389.715

(U) C. Other Program Funding Summary ($ in Millions)

	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total Cost
(U) AF, RDT&E										
(U) PE 0603421F Global Positioning System (Project 644993; BA-04; R-38)	446.197	0.000	0.000							446.197
(U) PE 0603423F Global Positioning System III Operational Control Segment	0.000	306.502	0.000							306.502

Exhibit R-2a, RDT&E Project Justification		DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE: A020 OCX

(U) C. Other Program Funding Summary ($ in Millions)

(Project 64A021; BA-04; R-XX)						
(U) Other APPN						
(U) Missile Procurement: PE 030265F, BA-5, P-XX	0.000	0.000	0.000			TBD
(U) Other Procurement: PE 0305265F, BP 83, 836730, P-70; BP 86	0.000	0.000	0.000			TBD

(U) D. Acquisition Strategy

The Air Force is pursuing a "Block" approach to the GPS III next generation control segment (OCX) to rapidly respond to warfighter capability requirements. The Block acquisition utilizes a disciplined system engineering approach which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach focuses on mission success and on time delivery. The first block of GPS III ground control segment (OCX) will provide backwards compatibility to GPS Block II capability.

The full content of OCX Blocks 1.0 and 2.0 includes M-code and civil signal monitoring, Netcentric Global Information Grid connectivity, command and control for GPS IIIA vehicles, and will meet current Information Assurance standards. This acquisition includes a structured capability insertion program to support risk reduction for OCX Blocks 3.0 and 4.0 (associated with controlling GPS IIIB and IIIC SVs).

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305265F GPS III Space Segment

PROJECT NUMBER AND TITLE: A020 OCX

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Phase B OCX Blk I & II Development	CPIF	TBD	0.000	0.000		0.000		312.247	Nov-09	Continuing	TBD	
SE&I (SAIC)	CPAF	El Segundo, CA	0.000	0.000		0.000		12.701	Nov-09	Continuing	TBD	
SE & Technical Support	Various	Various	0.000	0.000		0.000		22.402	Nov-09	Continuing	TBD	
Subtotal Product Development			0.000	0.000		0.000		347.350		Continuing	TBD	0.000
Remarks:												
(U) Support												
Wing Support	Various	Various	0.000	0.000		0.000		42.365	Nov-09	Continuing	TBD	
Subtotal Support			0.000	0.000		0.000		42.365		Continuing	TBD	0.000
Remarks:												
(U) Test & Evaluation												
											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		389.715		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE A020 OCX

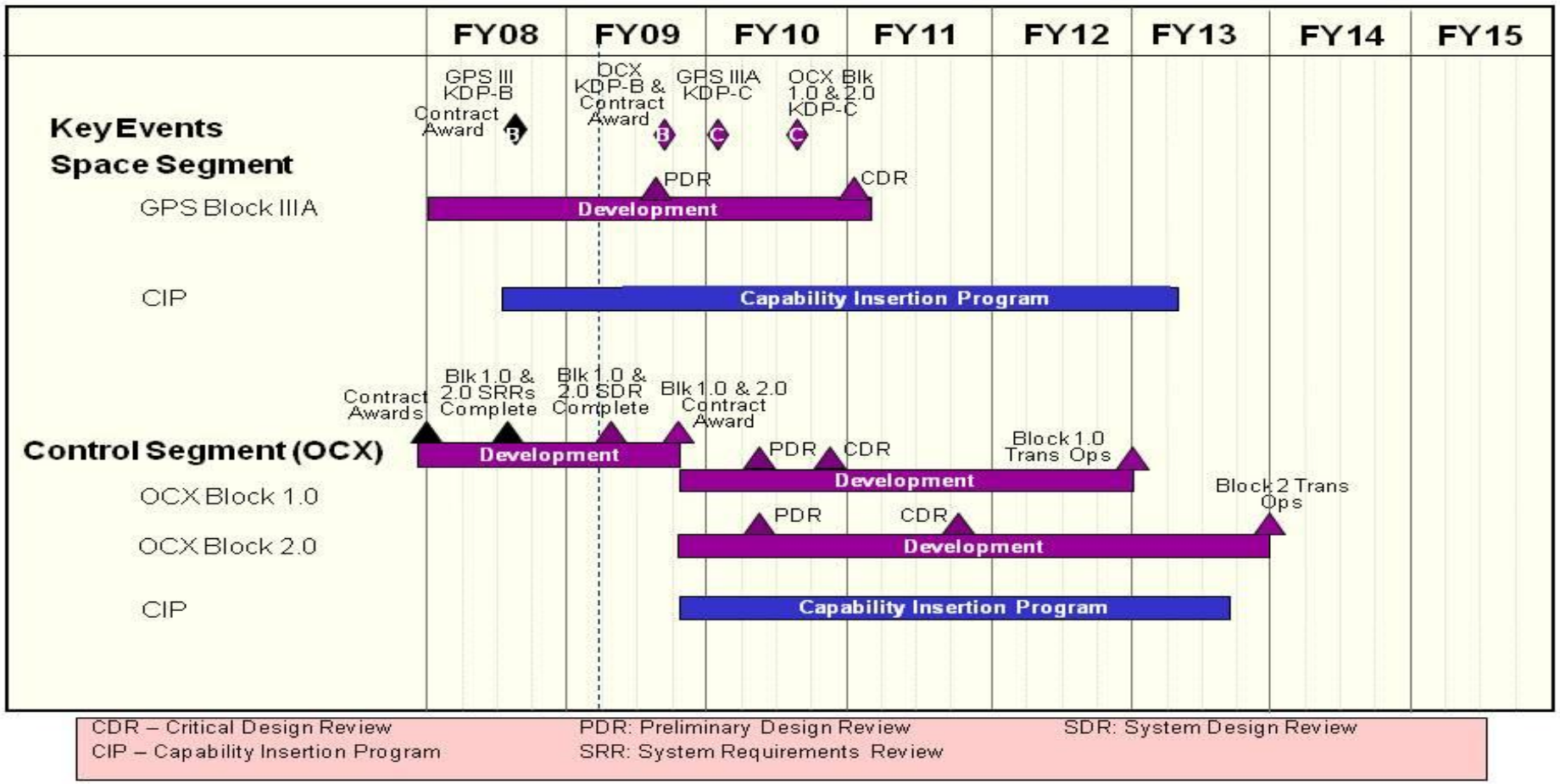

Exhibit R-4a, RDT&E Schedule Detail		DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305265F GPS III Space Segment	PROJECT NUMBER AND TITLE A020 OCX

(U) Schedule Profile	FY 2008	FY 2009	FY 2010
(U) OCX Blk 2.0 Preliminary Design Review (PDR)			2Q
(U) OCX Blk 1.0/2.0 Key Decision Point (KDP)-C			3Q
(U) OCX Blk 1.0 Critical Design Review (CDR)			4Q

FY09 OCX funding and associated efforts are located in PEs 0603423F and 0603427F.