

UNCLASSIFIED

PE NUMBER: 0603421F
 PE TITLE: GLOBAL POSITIONING SYSTEM

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603421F GLOBAL POSITIONING SYSTEM
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	89.556	313.401	587.226	868.852	839.868	755.699	642.740	569.885	Continuing	TBD
4993 GPS III	89.556	313.401	587.226	868.852	839.868	755.699	642.740	569.885	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Navstar Global Positioning System (GPS) is a space-based radio positioning, navigation, and time (PNT) distribution system. This Program Element (PE) funds the Research and Development (R&D) for GPS III space vehicles (SV) and the next generation Control Segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, satellite systems development, the study of augmentation systems, modernized control segment development, user equipment interfaces, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources.

Funds will support engineering studies and analyses, architectural engineering studies, trade studies, systems engineering, system development, test and evaluation efforts, and 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. Additionally, funds will ensure a disciplined Capability Insertion Program plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development to meet a Block approach (i.e., Block III A, Block III B, etc.).

In the FY07 PB, a restructure of the GPS III program provided funds for the GPS III SV and OCX. The FY08 PB completes the GPS III restructure. Funding for OCX supports an additional Prime Contractor to support OCX concept development, which includes, in addition to GPS III capabilities, the ability to control modernized signals.

This program is Budget Activity 4 - Advanced Component Development and Prototypes because it is in Phase A (Concept Development).

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	85.172	315.314	492.094	781.671
(U) Current PBR/President's Budget	89.556	313.401	587.226	868.852
(U) Total Adjustments	4.384	-1.917		
(U) Congressional Program Reductions		-1.194		
Congressional Rescissions		-0.723		
Congressional Increases				
Reprogrammings	6.999	0.004		
SBIR/STTR Transfer	-2.615			

(U) Significant Program Changes:

FY06: +\$6.999 for GPS III development efforts

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FY08: +\$95.132M for GPS III space vehicle (SV) requirements and the next generation control segment (OCX)

FY09: +\$87.181M for GPS III SV requirements and OCX

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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
4993 GPS III	89.556	313.401	587.226	868.852	839.868	755.699	642.740	569.885	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Navstar Global Positioning System (GPS) is a space-based radio positioning, navigation, and time (PNT) distribution system. This Program Element (PE) funds the Research and Development (R&D) for GPS III space vehicles (SV) and the next generation Control Segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, satellite systems development, the study of augmentation systems, modernized control segment development, user equipment interfaces, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources.

Funds will support engineering studies and analyses, architectural engineering studies, trade studies, systems engineering, system development, test and evaluation efforts, and 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. Additionally, funds will ensure a disciplined Capability Insertion Program plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development to meet a Block approach (i.e., Block III A, Block III B, etc.).

In the FY07 PB, a restructure of the GPS III program provided funds for the GPS III SV and OCX. The FY08 PB completes the GPS III restructure. Funding for OCX supports an additional Prime Contractor to support OCX concept development, which includes, in addition to GPS III capabilities, the ability to control modernized signals.

This program is Budget Activity 4 - Advanced Component Development and Prototypes because it is in Phase A (Concept Development).

(U) B. Accomplishments/Planned Program (\$ in Millions)

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue GPS III Space Vehicle (SV) Development	65.963	145.475	261.742	357.944
(U) Continue Next Generation Control Segment (OCX)	0.000	140.437	289.367	471.508
(U) Continue Program Support for GPS III SV/OCX, to include Systems Engineering and Integration	23.593	27.489	36.117	39.400
(U) Total Cost	89.556	313.401	587.226	868.852

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

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) AF RDT&E										
(U) PE 0305165F Navstar GPS (Space & Ground), R-191	174.530	176.721	120.931	92.626	57.192	35.939	36.221	36.959	Continuing	TBD
(U) Other APPN										

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

(U) Operations and Maintenance (PE 0305165F, BA 1 - Operating Forces, SAG 13D)	60.722	74.620	80.075	83.472	92.584	98.920	100.710	102.878	Continuing	TBD
(U) Missile Procurement (PE 0305165F, BA 5-Space and Other Support, P-22, 23)	336.845	84.585	210.261	127.392	169.626	501.608	726.313	790.504	Continuing	TBD
(U) Other Procurement (PE 0305165F, BP 83-Electronics and Telecommunications Equipment, WSC 836790, P-70 and WSC 836730; BP 86 - Spares & Repair Parts WSC 86190A, P-62)	13.370	12.218	11.680	25.456	10.947	18.468	28.008	20.756	Continuing	TBD

(U) D. Acquisition Strategy

The Air Force is pursuing a "Block" approach to GPS III space vehicle (SV) development and the next generation control segment (OCX) to rapidly respond to warfighter capability requirements. The Block acquisition approach follows the "Back to Basics" space program acquisition philosophy which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach, consistent with the National Security Space (NSS) 03-01 Acquisition Policy, focuses on mission success and on time delivery. In parallel with these activities, the GPS III SV program and OCX will continue their Phase A and Program R&D Announcement (PRDA) risk reduction activities until contracts are awarded.

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Exhibit R-3, RDT&E Project Cost Analysis

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(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>														
Phase A Continuation Contracts													0.000	
Phase A Contracts (Boeing)	CPFF	Huntington Beach, CA	18.691	12.922	Aug-06	0.000		0.000		0.000		0.000	31.613	24.257
Phase A Contracts (Lockheed Martin)	CPFF	King of Prussia, PA	18.668	24.088	Aug-06	0.000		0.000		0.000		0.000	42.756	24.234
Anticipated OCX Contract	CPFF	TBD	0.000	0.000		140.437	Aug-07	289.367	Nov-07	471.508	Nov-08	Continuing	TBD	
Anticipated Block IIIA Contract	CPAF	TBD	0.000	0.000		101.575	Jun-07	210.456	Nov-07	308.059		Continuing	TBD	
GPS III Development PRDAs	Various	Various	1.805	5.207	Jan-06	0.000		0.000		0.000		0.000	7.012	
Mod System Engineering & Technical Support	Various	Various	70.235	23.746	Jan-06	43.900	Nov-06	51.286	Nov-07	49.885	Nov-08	Continuing	TBD	
Subtotal Product Development			109.399	65.963		285.912		551.109		829.452		Continuing	TBD	48.491
Remarks:														
(U) <u>Support</u>														
Wing Support for GPS III / OCX	Various	Various	24.950	20.662	Jan-06	22.889	Nov-06	31.379	Nov-07	34.520	Nov-08	Continuing	TBD	
Other Agency Support for GPS III/ OCX	Various	Various	11.674	2.931	Jan-06	4.600	Nov-06	4.738	Nov-07	4.880	Nov-08	Continuing	TBD	
Subtotal Support			36.624	23.593		27.489		36.117		39.400		Continuing	TBD	0.000
Remarks:														
(U) <u>Test & Evaluation</u>														
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) <u>Management</u>														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			146.023	89.556		313.401		587.226		868.852		Continuing	TBD	48.491

Exhibit R-4, RDT&E Schedule Profile

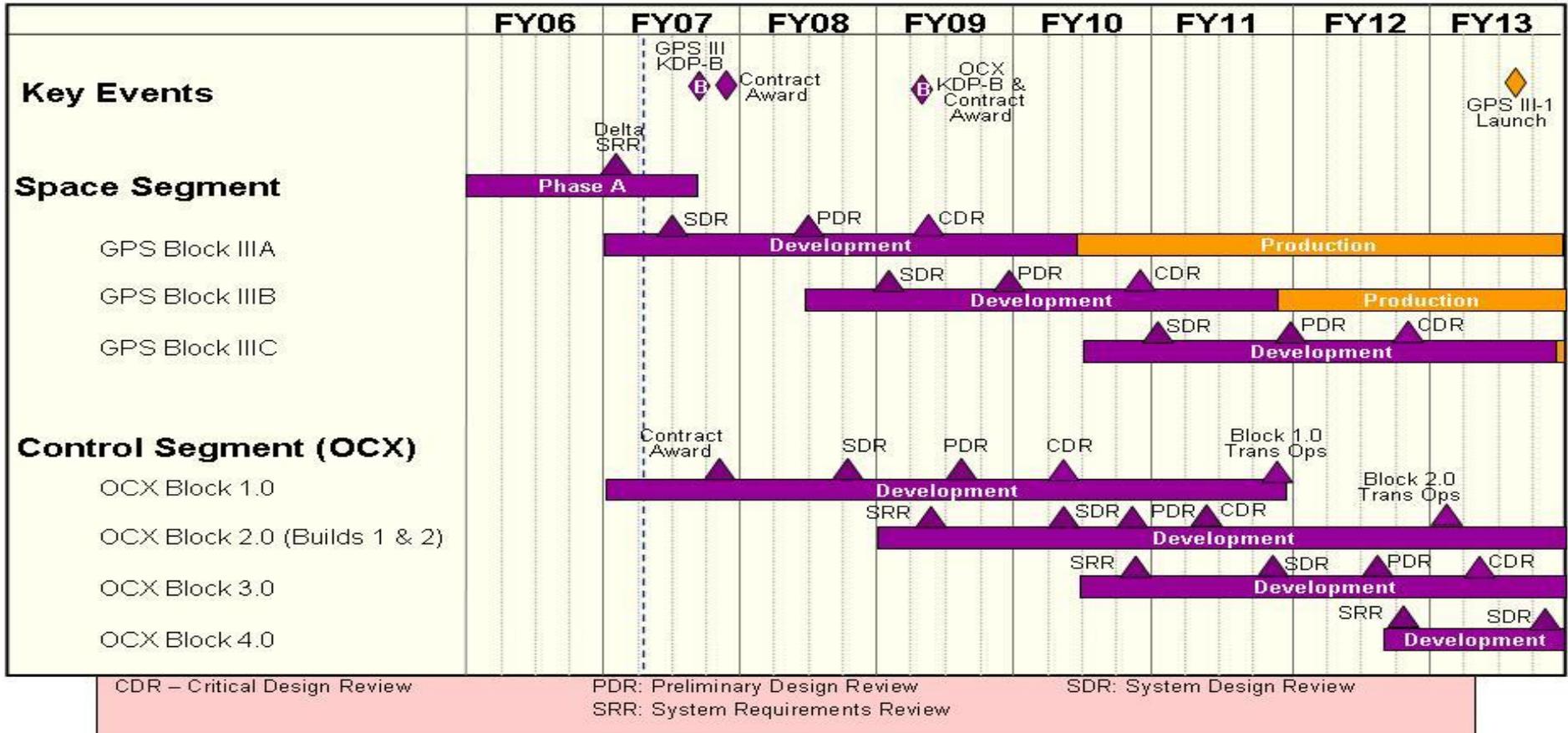
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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Block III Award Payload Risk Reduction	3Q			
(U) Block III Award Delta System Requirements Review (SRR) Contracts	4Q			
(U) Block III Award System Design Review (SDR)/KDP-B Contracts		1Q		
(U) Block III Delta SRR		1Q		
(U) Block III Request for Proposal (RFP)		2Q		
(U) Block III SDR		2Q		
(U) Block III KDP-B		3Q		
(U) Block III Contract Award		4Q		
(U) OCX Award 2 Contracts			1Q	
(U) OCX SRRs			1Q	
(U) Block IIIA PDR			2Q	
(U) Block IIIA KDP-C			3Q	
(U) OCX SDR & Prototype Demo			4Q	
(U) OCX KDP-B & Downselect				2Q
(U) Block IIIA Critical Design Review (CDR)				2Q
(U) Block IIIA Build Approval				3Q
(U) OCX PDR				3Q
(U) OCX KDP-C				4Q