

UNCLASSIFIED

PE NUMBER: 0305165F
 PE TITLE: NAVSTAR GPS (Space)

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space)
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Cost (\$ in Millions)	FY 2007 Actual	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	160.555	119.089	91.277	56.335	35.414	35.699	36.417	Continuing	TBD
3030 NAVSTAR GPS (Space & Control)	160.555	119.089	91.277	56.335	35.414	35.699	36.417	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This Program Element (PE) funds Research and Development (R&D) for the Navstar Global Positioning System (GPS) Space and Control segments for GPS Block II satellites. It includes, but not limited to: satellite development, training simulators, Integrated Logistics Support (ILS) products, ground control segment development, procurement, and operation; sustaining engineering; space and ground segments upgrades; and R&D efforts to support GPS Block II system deployment including efforts to provide anti-jam capability through increased Military(M)-Code signal power.

GPS Block IIR-M satellites are currently being launched. GPS Block IIF satellites are being developed to include a second and third civil signal (L2C and L5) and a new military signal (M-code).

Operational Control System (OCS) will deliver control segment capabilities to support Block IIF satellites as well as the existing constellation of Block IIA/IIR/IIR-M satellites. The full capabilities inherent in the modernized Block IIR-M and IIF satellites will be provided in increment 1 of the next generation GPS control segment (OCX) which is funded in Program Element 0603421F, 0603427F and 0603423F.

This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	176.721	120.931	92.626
(U) Current PBR/President's Budget	160.555	119.089	91.277
(U) Total Adjustments	-16.166	-1.842	
(U) Congressional Program Reductions		-1.842	
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-10.000		
SBIR/STTR Transfer	-6.166		

(U) Significant Program Changes:

FY07: \$10M reprogramming for higher Air Force priorities

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Cost (\$ in Millions)		FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
3030	NAVSTAR GPS (Space & Control)	160.555	119.089	91.277	56.335	35.414	35.699	36.417	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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(U) B. Accomplishments/Planned Program (\$ in Millions)	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue system engineering, spectrum/frequency management and program operations, to include Systems Engineering and Integration	27.742	26.381	21.139
(U) Continue IIF satellite development	16.259	2.400	0.000
(U) Continue IIR Satellite development/L-5 Signal	5.971	0.000	0.000
(U) Continue Operational Control Segment (OCS) development/modernization	110.583	90.308	70.138
(U) Total Cost	160.555	119.089	91.277

(U) C. Other Program Funding Summary (\$ in Millions)	<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>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									
(U) PE 0603421F Global Positioning System (Project 644993; BA-4; R-38)	291.556	482.845	0.000	0.000	0.000	0.000	0.000	0.000	774.401
(U) PE 0305265F GPS III Space	0.000	0.000	420.342	284.973	262.810	299.210	247.075	Continuing	TBD

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

Segment (Project 67A019; BA-4; R-XX)									
(U) PE 0603423F Global Positioning System III - Operational Control Segment (Project 64A021; BA-04; R-XX)	0.000	0.000	2.975	236.734	359.524	330.812	310.996	Continuing	TBD
(U) PE 0603427F GPS Operational Control Segment Backwards Compatibility (Project 64A022; BA-04; R-XX)	0.000	0.000	304.360	212.962	0.000	0.000	0.000	0.000	517.322
(U) Other APPN									
(U) Operations and Maintenance: PE 0305165F, BA-01; SAG 11M,13D	62.936	77.264	83.326	92.168	98.214	100.103	102.492	Continuing	TBD
(U) Missile Procurement: PE 0305165F; BA-05; P-22, 23	84.576	207.826	110.443	167.801	355.160	66.553	297.178	Continuing	TBD
(U) Missile Procurement: PE 0305265F; BA-04; P-XX	0.000	0.000	0.000	0.000	139.484	650.029	482.004	Continuing	TBD
(U) Other Procurement: PE 0305165F, BP 83, WSC 836790, P-70; WSC 836740, P-71; BP 86, WSC 86190A, P-62	11.087	11.599	25.111	10.802	18.215	27.624	20.470	Continuing	TBD

(U) D. Acquisition Strategy

GPS OCS upgrade was competitively awarded to a single contractor (Lockheed Martin) in July 1995. Block IIF satellite and IIF ground systems development contract was competitively awarded to a single contractor (Boeing) in April 1996. The Single Prime Initiative (SPI) consolidated these efforts and was added to the Boeing IIF contract (with Lockheed Martin as a subcontractor) on 1 Oct 1999. GPS Modernization efforts for the Block IIR were awarded sole source to Lockheed Martin under a new contract in August 2000. Modernization efforts for Block IIF were added to the existing contract with Boeing as Engineering Change Proposals (ECPs).

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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 2007 Cost</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>												
Applied Research Labs	MIPR	Various	3.649	0.000		0.000		0.000		0.000	3.649	
OCS Development & IIF Modernization (F0470196C0025)	FPAF/CPA F/CPFF	Boeing, Seal Beach, CA	1,165.742	107.819	Nov-06	88.281	Nov-07	69.208	Nov-08	Continuing	TBD	1,944.179
IIF Development (F047019C0025)	FPAF/CPA F/CPFF	Boeing, Seal Beach, CA	54.813	16.259	Nov-06	2.400	Nov-07	0.000		0.000	73.472	77.600
IIR Modernization Development (F0470100C0006)	CPIF	Lockheed Martin, King of Prussia, PA	74.786	5.971		0.000		0.000		0.000	80.757	74.786
GPS III Modernization (F0470101C0008)	FFP	Lockheed Martin, King of Prussia, PA	15.767	0.000		0.000		0.000		0.000	15.767	TBD
GPS III Modernization (F0470101C0010)	FFP	Boeing, Seal Beach, CA	16.000	0.000		0.000		0.000		0.000	16.000	
Control Segment Support	MIPR/PO	Various Gov't agencies	8.119	2.764	Nov-06	2.027	Nov-07	0.930	Nov-08	Continuing	TBD	TBD
EELV Mission Unique Svcs & Clock Development	MIPR/Other SPO Contracts	NRL & Contractors	26.477	0.000		0.000		0.000		Continuing	TBD	TBD
Stewardship	MIPR	Various	13.333	0.000		0.000		0.000		Continuing	TBD	TBD
Accuracy Improvement Initiative (AII)	FPA/CPAF/CPFF	Boeing, Seal Beach, CA	10.000	0.000		0.000		0.000		0.000	10.000	
Subtotal Product Development			1,388.686	132.813		92.708		70.138		Continuing	TBD	TBD
Remarks:												
<u>(U) Support</u>												
System Engineering/Support	Various	FFRDC (Aerospace/Mitre), SETA	42.534	19.030	Nov-06	18.958	Nov-07	14.700	Nov-08	Continuing	TBD	TBD
GPS Modernization Tech Spt	Various	Various	43.249	0.000		0.000		0.000		0.000	43.249	
Miscellaneous	Various	Various	3.231	0.000		0.000		0.000		0.000	3.231	
Subtotal Support			89.014	19.030		18.958		14.700		Continuing	TBD	TBD
Remarks:												
<u>(U) Test & Evaluation</u>												
Flex Power Testing (F0470100C0006)	FPAF/CPA F/CPFF	Lockheed Martin, King of Prussia, PA & various gov't activities	4.588	0.000		0.000		0.000		Continuing	TBD	TBD
Subtotal Test & Evaluation			4.588	0.000		0.000		0.000		Continuing	TBD	TBD

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Exhibit R-3 (PE 0305165F)

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Remarks:										
(U)	<u>Management</u>									
	Management Support	Various	FFRDC							
		SETA &	(Aerospace) &	19.947	8.712	Nov-06	7.423	6.439	Continuing	TBD
		FFRDCs	SETA							TBD
	Subtotal Management			19.947	8.712		7.423	6.439	Continuing	TBD
Remarks:										
(U)	Total Cost			1,502.235	160.555		119.089	91.277	Continuing	TBD

Exhibit R-4, RDT&E Schedule Profile

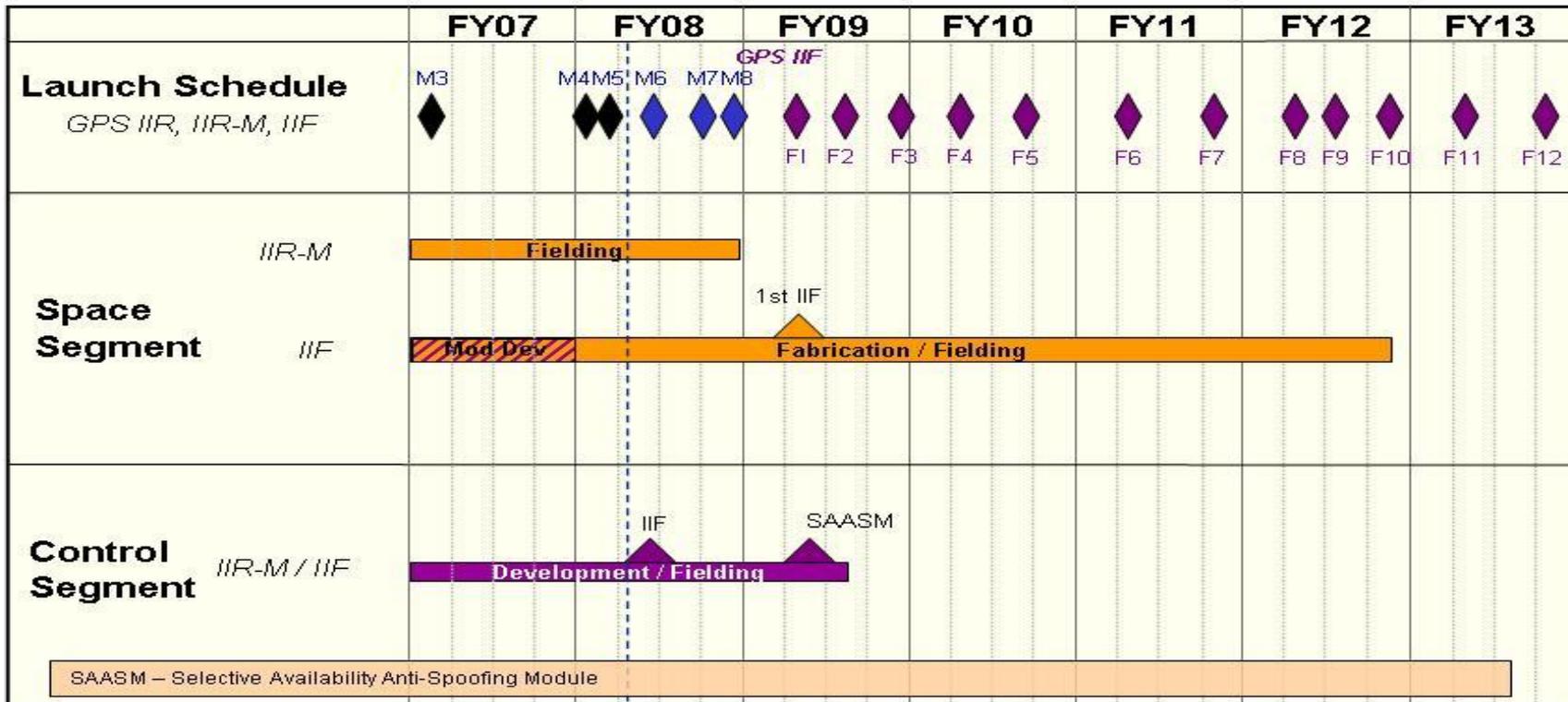
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07 Operational System Development

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0305165F NAVSTAR GPS (Space)

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Exhibit R-4a, RDT&E Schedule Detail

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BUDGET ACTIVITY

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PROJECT NUMBER AND TITLE

3030 NAVSTAR GPS (Space & Control)

(U) Schedule Profile

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Launch, Anomaly resolution & Disposal Operations (LADO) release 1 delivery to site	1Q		
(U) SAASM development Formal Qualification Test (FQT)	3Q		
(U) IIF flight software development complete	4Q		
(U) SAASM system test complete		3Q	
(U) GPS Block IIF development complete		4Q	
(U) LADO release 2 complete		4Q	
(U) SAASM capability complete			2Q