

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

June 2001

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0305165F NAVSTAR GPS (Space)

PROJECT

3030

COST (\$ in Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
3030 NAVSTAR GPS (Space & Control)	106,849	258,592	186,459	206,960	72,760	60,135	59,667	51,003	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

NOTE: This administration has not addressed FY 2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.

(U) **A. Mission Description**

This program element funds Research and Development for the NAVSTAR Global Positioning System (GPS) Space and Control segments of the overall GPS program. This includes, but is not limited to: satellite development, training simulators, development of an Integrated Mission Operation Support Center (IMOSC), Integrated Logistics Support (ILS) products, and ground control segment development, procurement, and operation; sustaining engineering; space and ground segments upgrades; and R&D efforts to support the entire GPS system deployment.

GPS Block IIF satellites and up to as many as 12 Block IIR satellites will be modified to include a second civil signal and new military signal. Block IIF satellites will also include a third civil signal (L5). A new GPS Block III program was initiated after new start approval in August 2000 to incorporate a higher power military signal to provide enhanced anti-jam capability, the second and third civil signals, and the new military signal.

(U) **FY 2000 (\$ in Thousands)**

- (U) \$8,362 Continued system engineering and spectrum frequency management
- (U) \$10,256 Continued IIF satellite development
- (U) \$25,520 Continued GPS Modernization for Space (for all IIF, 12 IIR and future Block III satellites)
- (U) \$59,737 Continued Operational Control Segment (OCS) development
- (U) \$2,974 Begin GPS stewardship
- (U) \$106,849 Total

The following net transaction is not reflected in the FY00 program total: BTR= -\$2,794K. This transaction is not reflected in other sections of the R-Docs where an FY00 total is shown.

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PROJECT

07 - Operational System Development**0305165F NAVSTAR GPS (Space)****3030**(U) **A. Mission Description Continued**(U) **FY 2001 (\$ in Thousands)**

(U) \$21,192 Continue system engineering and spectrum/frequency management

(U) \$6,529 Continue IIF satellite development

(U) \$121,050 Continue GPS Modernization for Space (for all IIF, 12 IIR, and future Block III satellites)

(U) \$85,404 Continue Operational Control Segment (OCS) development

(U) \$19,717 Continued OCS modernization

(U) \$4,700 Continue GPS stewardship

(U) \$258,592 Total

The following net transactions are not reflected in the FY01 program total: SBIR = -\$11,627K, BTR = -\$3,101K. These transactions are not reflected in other sections of the R-Docs where an FY01 total is shown.

(U) **FY 2002 (\$ in Thousands)**

(U) \$8,000 Continue system engineering and spectrum/frequency management

(U) \$5,036 Continue IIF satellite development

(U) \$66,278 Continue GPS Modernization for Space (for IIF and IIR satellites; GPS III funds transferred to PE 0603421F)

(U) \$62,545 Continue OCS development

(U) \$44,600 Continue OCS modernization

(U) \$186,459 Total

GPS Stewardship transferred to PE 0603421F

(U) **B. Budget Activity Justification**

This program is in Budget Activity 7 - Operational Systems Development because it is a post-Milestone III program.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Total Cost</u>
(U) Previous President's Budget (FY 2001 PBR)	114,851	260,980	210,579	TBD
(U) Appropriated Value	108,890	260,980		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-849	-1,821		
b. Small Business Innovative Research	-3,957			

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BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space)			PROJECT 3030				
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>											
				<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>		<u>Total Cost</u>			
	c. Omnibus or Other Above Threshold Reprogram			7,400							
	d. Below Threshold Reprogram			-4,209							
	e. Rescissions			-426							
(U)	Adjustments to Budget Years Since FY 2001 PBR			0	-567	-24,120					
(U)	Current Budget Submit/FY 2002 PBR			106,849	258,592	186,459		TBD			
(U) <u>Significant Program Changes:</u>											
GPS III and stewardship funds were transferred to PE 0603421F, starting in FY02.											
Due in part to Modernization New Start approval late in FY00 (Aug 00), execution rates were lower than expected. This resulted in funding being rephased from FY02 to FY03.											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>											
		<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										
(U)	RDT&E (PE 0603421F, BA-4/R-38, BPAC 644993 - GPS Block III)	0	0	78,358	100,575	185,119	188,838	227,900	224,516	Continuing	TBD
(U)	Other APPN										
(U)	Operations and Maintenance (PE 0305165F, BA 1 - Operating Forces, SAG 13D)	34,669	54,116	51,992	56,488	59,089	57,634	59,863	62,841	Continuing	TBD
(U)	Missile Procurement (PE 0305165F, BA 5 - Space and Other Support, P-20, 21)	107,498	173,434	201,479	236,103	223,445	261,769	161,877	425,158	Continuing	TBD
(U)	Other Procurement (PE 0305165F, BP 83 - Electronics and	13,511	7,812	7,989	7,125	8,811	9,918	14,231	26,326	Continuing	TBD
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0305165F NAVSTAR GPS (Space)

PROJECT

3030**(U) D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2000</u> <u>Actual</u>	<u>FY 2001</u> <u>Estimate</u>	<u>FY 2002</u> <u>Estimate</u>	<u>FY 2003</u> <u>Estimate</u>	<u>FY 2004</u> <u>Estimate</u>	<u>FY 2005</u> <u>Estimate</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
Telecommunications Equipment, WSC 6790, P-68, and WSC 6730.) PE 0305164F, GPS User Equipment PE 0301357F and 0305913F, Nuclear Detonation Detection System (NDS) PE 0305119F Space Boosters (Delta II) PE 030953F Evolved Expendable Launch Vehicle (EELV)										

(U) E. 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 99. GPS Modernization efforts for the Block IIR was awarded sole source to Lockheed Martin under a new contract in August 2000. Efforts for Block IIF are being added to the existing contract with Boeing as ECPs.

(U) F. Schedule Profile

	<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Continue OCS Architectural Implementation:												
(U) Phase 3/4 delivery							*					
(U) Phase 3/4 Installed in GPS Support Facility (GSF)									X			
(U) Version 5 Development Begins					*							
(U) IIA IMOSC system available	*											
(U) IIA IMOSC Initial Operational Capability				*								
(U) Enhanced IIA IMOSC Development begins					*							
(U) Enhanced IIA IMOSC Development complete								X				
(U) IIF IMOSC Development Begins									X			
(U) Launch/Early Orbit (L/EO) Consolidation Development begins							*					
(U) GPS Modernization Studies complete					*							

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(U) <u>F. Schedule Profile Continued</u>												
		<u>FY 2000</u>				<u>FY 2001</u>				<u>FY 2002</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	GPS Overarching Integrated Product Team (OIPT)						*					
(U)	GPS Defense Acquisition Executive Program Review							X				
(U)	GPS Modernization Space/Control development begins						*					
(U)	GPS Block IIR development complete								X			
(U)	GPS Block IIF CDR										X	
(U)	GPS Modernization Long Lead Production Block IIF begins							X				
(U)	GPS Modernization Long Lead Production Block IIR Begins						*					
(U)	GPS III Architecture Study Contracts Awarded						*					
(U)	GPS Block IIF PDR							X				
(U)	GPS Block IIR CDR						*					
(U)	GPS Block IIR Production Start							X				
* = Completed, X = Scheduled												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE			
								June 2001			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
07 - Operational System Development					0305165F NAVSTAR GPS (Space)				3030		
(U) A. Project Cost Breakdown (\$ in Thousands)											
					FY 2000		FY 2001		FY 2002		
(U) System Engineering and spectrum frequency management					8,362		21,192		8,000		
(U) GPS Block IIF satellite development					10,256		6,529		5,036		
(U) GPS Modernization for Space					25,520		121,050		66,278		
(U) OCS development					59,737		105,121		107,145		
(U) GPS Stewardship					2,974		4,700		0		
(U) Total					106,849		258,592		186,459		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
Contractor or Government		Contract Method/Type	Award or Obligation	Performing Activity	Project Office	Total Prior to FY 2000	Budget FY 2000	Budget FY 2001	Budget FY 2002	Budget to Complete	Total Program
Activity		Vehicle	Date	EAC	EAC						
Product Development Organizations											
Applied Research Labs		MIPR	Mar 97	Continuing	Continuing	2,366	683	300	300	Continuing	TBD
Boeing (C0025)		FPAF/CPAF/CPFF	Apr 96	Continuing	Continuing	198,463	75,900	153,748	176,659	Continuing	TBD
Lockheed-Martin Missiles and CPIF Space (C0006)			Aug 00	Continuing	Continuing	0	11,000	42,002	0	Continuing	TBD
GPS III Modernization Lockheed-Martin (C0008)		FFP	Dec 00	16,000	16,000	0	0	16,000	0	0	16,000
GPS III Modernization Boeing (C0010)		FFP	Dec 00	16,000	16,000	0	0	16,000	0	0	16,000
NRL		MIPR	Various	Continuing	Continuing	3,390	5,390	4,650	1,500	Continuing	TBD
GPS Modernization Stewardship		Various	Various	Continuing	Continuing	0	2,974	4,700	0	Continuing	TBD
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
										June 2001
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT
07 - Operational System Development					0305165F NAVSTAR GPS (Space)					3030
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
System Engineering/Support	Various	Various	N/A	N/A	27,513	1,087	901	935	Continuing	TBD
GPS Modernization Tech Spt		Various	Continuing	Continuing	8,658	7,735	20,291	7,065	Continuing	TBD
Miscellaneous	Various	Various	N/A	N/A	1,151	2,080	0	0	0	3,231
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2000</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					204,219	95,947	237,400	178,459	TBD	TBD
Subtotal Support and Management					37,322	10,902	21,192	8,000	TBD	TBD
Subtotal Test and Evaluation										
Total Project					241,541	106,849	258,592	186,459	TBD	TBD

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