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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000		
BUDGET ACTIVITY <b>06 - Management and Support</b>				PE NUMBER AND TITLE <b>0605864F Space Test Program</b>				PROJECT <b>662617</b>		
COST (\$ in Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
662617	Free-Flyer Spacecraft Missions	40,397	50,402	46,476	50,576	53,683	54,254	55,827	Continuing	0
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <b><u>A. Mission Description</u></b></p> <p>(U) The Space Test Program (STP) conducts space test missions to fly the maximum number of DoD experiments consistent with priority, opportunity, and funding. STP supports the DoD space research community by centrally financing acquisition of a host satellite or launch vehicle, the launch, and initial operations costs for experiments with military relevance whose scope ranges from basic research to advanced development. STP missions are the most cost effective way to flight test new space systems technologies, concepts and designs, providing an inexpensive way to:</p> <ul style="list-style-type: none"> <li>-Demonstrate the feasibility of new space systems and technologies</li> <li>-Improve operational design by characterizing the space environment, event, or sensor physics proposed for an operational system/system upgrade</li> <li>-Provide early operational capabilities to evaluate usefulness or quickly react to new developments</li> <li>-Perform operational risk reduction through direct flight test of prototype components</li> <li>-Develop the knowledge base from which to plan new and improved operational systems and system upgrades</li> <li>-Develop and test advanced small launch vehicle technology and capabilities</li> </ul> <p>(U) This DoD program provides the primary spaceflight capability to perform fly-before-buy, risk-reducing demonstrations of advanced technologies in operational space environments. The Secretary of Defense issued a policy statement in November 1995 reaffirming STP's role as the primary provider of spaceflight for the entire DoD space research community. The Air Force requires a stable funding level and the flexibility necessary to take advantage of whatever means of spaceflight is deemed to be most cost effective for a given experiment or complement of experiments. This flexibility is essential to take advantage of inexpensive 'target of opportunity' space hardware, including operational spacecraft, where margin is usually firmly identified during the later stages of spacecraft development. This assures that the greatest amount of DoD space research is accomplished with the limited funds available. This funding provides DoD's most successful and cost-effective capability to launch and test new technologies prior to their incorporation into our nation's very expensive and demanding operational space systems. Insufficient funding would force each of the Services and DoD agencies to create individual launch capabilities in an attempt to duplicate STP's current low-cost, risk-mitigating capability. Such a redundancy would result in the loss of the contractual economy of scale that a single space test organization provides, as well as the filtering function of the DoD Space Experiments Review Board in assuring quality experiments and minimum duplication.</p>										
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(U)	<b><u>A. Mission Description Continued</u></b>	
(U)	<u>FY 1999 (\$ in Thousands)</u>	
(U)	\$8,600	Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support
(U)	\$2,439	Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support
(U)	\$12,857	Initiated experiment missions from 1998 Space Experiments Review Board (SERB) list - MightySat II.1, Coriolis, reusable upper stage/bus development
(U)	\$16,501	Continued current missions - Tri-Service Space Experiment 5 (TSX-5), Multi-spectral Thermal Imager (MTI), and Advanced Research and Global Observation Satellite (ARGOS) launch/operations
(U)	\$40,397	Total
(U)	<u>FY 2000 (\$ in Thousands)</u>	
(U)	\$13,305	Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support
(U)	\$3,150	Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support
(U)	\$5,346	Initiate experiment missions from 1999 SERB list, such as Communication/Navigation Outage Forecasting System (C/NOFS)
(U)	\$28,601	Continue current missions - Coriolis, launch MTI, operations for ARGOS, launch/operations for TSX-5, MightySat II.1
(U)	\$50,402	Total
(U)	<u>FY 2001 (\$ in Thousands)</u>	
(U)	\$10,945	Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support
(U)	\$3,200	Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support
(U)	\$17,346	Initiate experiment missions from 1999 and 2000 SERB lists, such as Super Transmission/Remote Atmospheric Ionospheric Detection System Integrated Polar Experiment (STRIPE) and Coronal Mass Ejection Warning System (CMEWS)
(U)	\$14,985	Continue current missions - C/NOFS; operations for TSX-5 and MightySat II.1
(U)	\$46,476	Total
	Note: New missions and funding priorities evolve as spaceflight opportunities, budget, and DoD experiment rankings change.	
(U)	<b><u>B. Budget Activity Justification</u></b>	
	STP is in Budget Activity 6, RDT&E Management and Support, because it supports RDT&E satellite launches.	
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<b>(U) C. Program Change Summary (\$ in Thousands)</b>										
				<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>			
(U)	Previous President's Budget (FY 2000 PBR)			45,439	51,658	49,389				
(U)	Appropriated Value			45,933	51,658					
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions			-494	-81					
	b. Small Business Innovative Research			-1,399						
	c. Omnibus or Other Above Threshold Reprogram				-772					
	d. Below Threshold Reprogram			-3,417						
	e. Rescissions			-226	-403					
	f. Other									
(U)	Adjustments to Budget Years Since FY 2000 PBR					-2,913				
(U)	Current Budget Submit/FY 2001 PBR			40,397	50,402	46,476				
(U)	<b>Significant Program Changes:</b>									
	Space Test Program (Space) is funded in PE 0605864F starting in FY99. Prior year funding is in PE 0603402F. FY01 reductions support higher AF priorities.									
<b>(U) D. Other Program Funding Summary (\$ in Thousands)</b>										
		<u>FY 1999</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>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)	Related Procurement:									
(U)	PE 0305119F, Medium Launch Vehicles									
(U)	PE 0305144F, Titan Space Boosters									
(U)	PE 0305953F, Evolved Expendable Launch Vehicle									
						75,000				
	Experiments are funded by many Science and Technology (S&T) PEs in Air Force, Army, Navy, DARPA, BMDO, DoE, NASA, and other programs.									

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**(U) E. Acquisition Strategy**

Various service laboratories and DoD agencies justify, develop, finance, and deliver the space research experiments supported by STP. These experiments have a common goal to improve DoD's current and future operational space systems' performance. The DoD Space Experiments Review Board (SERB), an independent board composed of Air Force, Army, Navy, Joint Staff, NRO, BMDO, and other representatives, annually prioritizes experiments for spaceflight. The SERB gives the prioritized list of experiments to STP, which then seeks out the most cost-effective means of spaceflight to maximize the number of experiments flown within the constraints of priority, opportunity and available funding. The most common spaceflight opportunities include piggybacking on military or commercial satellites and using the various payload modes of the Space Shuttle and International Space Station. For experiments with requirements that cannot be satisfied with these 'secondary' opportunities, STP procures dedicated spacecraft and launch vehicle hardware within the constraints of available funding and according to experiment requirements. These include small and medium satellite busses, as well as small launch vehicle-class boosters (such as Pegasus XL, Taurus, and Athena). Medium launch vehicle-class boosters from PE 35119F (MLV), PE 35144F (Titan), and PE 35953F (EELV) provide medium launch as required. If a service fails to adequately fund a particular experiment, if STP deems the experiment impractical to fly, or if the appropriate spaceflight opportunity becomes unavailable, STP shifts remaining resources to provide spaceflight support for the next highest priority experiment.

**(U) F. Schedule Profile**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) STS-88 - MightySat 1, SIMPLEX	*											
(U) STS-95 CRYOTSU, MSX, MEMS, CCM-A, PANSAT, SIMPLEX, TASBE	*											
(U) ARGOS(DeltaII)-ESEX,USA,GIMI,CERTO,SPADUS,HIRAAS, HTSSE,EUVIP,CIV (P91-1)												
(U) STS-93 STL-B, CCM-C, MSX, LFSAH, SIMPLEX, MEMS				*								
(U) POGS-II (DMSP-15) (S92-1)					*							
(U) CHAWS-LD (OSP) (S99-2)								*				
(U) CEASE, CERTO PLUS (STRV1 C/D) (S97-1, S97-2)								X				
(U) MTI/HXRS (Taurus) (P97-3)								X				
(U) TSX-5 (Pegasus XL)-STRV II, CEASE (P95-2)									X			
(U) SINDRI/MightySat II.1 (OSP) (P99-1)									X			
(U) STS-100** (ISS-6A) MACE										X		
(U) PICOSat (TBD LV)- PBEX, IOX, CERTO, OPPEX (P97-1)										X		
(U) STS-107** ACSBIRS, STW/AR, CCM-C											X	

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(U) **F. Schedule Profile Continued**

	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) STS-109** (ISS UF-2) MEMS-ER												X
(U) Coriolis (Titan II) (P98-2) 1QFY02												
(U) C/NOFS (TBD LV) (P00-a) 2QFY03												
(U) * = completed event												
(U) **New spaceflight opportunity since FY00PB												
(U) X = planned launch												