

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 1999</b>
--	------------------------------

<b>BUDGET ACTIVITY</b> <b>6 - Management and Support</b>	<b>PE NUMBER AND TITLE</b> <b>0605864F Space Test Program (Space)</b>	<b>PROJECT</b> <b>2617</b>
---	--	-------------------------------

COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
2617 Free-Flyer Spacecraft Missions	0	45,439	51,658	49,389	48,504	54,162	55,290	56,442	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: This is not a new start. Space Test Program (Space) PE 0603402F changes to PE 0605864F in FY99 to more accurately reflect its function. Prior year funding is in PE 0603402F.

**(U) A. Mission Description**

(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:

- Demonstrate the feasibility of new space systems and technologies
- Improve operational design by characterizing the space environment, event, or sensor physics proposed for an operational system/system upgrade
- Provide early operational capabilities to evaluate usefulness or quickly react to new developments
- Perform operational risk reduction through direct flight test of prototype components
- Develop the knowledge base from which to plan new and improved operational systems and system upgrades
- Develop and test advanced small launch vehicle technology and capabilities

(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.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1999
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>6 - Management and Support</b>	<b>0605864F Space Test Program (Space)</b>	<b>2617</b>
<p>(U) <u>FY 1998 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$           Funding is in 0603402F</li> <li>0</li> </ul> <p>(U) <u>FY 1999 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 8,858 Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support</li> <li>- (U) \$ 3,060 Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support</li> <li>- (U) \$ 8,540 Initiate space experiment missions from 1999 SERB list, reusable upper stage/bus development, C/NOFS</li> <li>- (U) \$23,582 Continue STP medium-class launch vehicle missions-Coriolis, TSX-5 and ARGOS launch/operations, Multi-spectral Thermal Imager (MTI)</li> <li>- (U) \$ 1,399 Identified as a source for SBIR</li> <li>- (U) \$45,439 Total</li> </ul> <p>(U) <u>FY 2000 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 9,499 Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support</li> <li>- (U) \$ 3,100 Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support</li> <li>- (U) \$ 2,578 Initiate space experiment missions from 2000 SERB list</li> <li>- (U) \$36,481 Continue space experiment missions from 1999 and prior SERB lists-Coriolis, C/NOFS, ARGOS and TSX-5 operations</li> <li>- (U) \$51,658 Total</li> </ul> <p>(U) <u>FY 2001 (\$ in Thousands):</u></p> <ul style="list-style-type: none"> <li>- (U) \$ 9,320 Piggyback/secondary payload missions, mission planning, Aerospace Corp support, mission and program support</li> <li>- (U) \$ 3,200 Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support</li> <li>- (U) \$14,619 Initiate space experiment missions from 2001 SERB list</li> <li>- (U) \$22,250 Continue space experiment mission from 2000 and prior SERB lists-C/NOFS</li> <li>- (U) \$49,389 Total</li> </ul> <p>Note: Funding reflects current (Coriolis, ARGOS, TSX-5, MTI) and new (C/NOFS) missions. New missions and funding priorities evolve as spaceflight opportunities, budget, and DoD experiment rankings change.</p> <p>(U) <b>B. <u>Budget Activity Justification:</u></b> STP is in Budget Activity 6 RDT&amp;E Management and Support because it supports RDT&amp;E satellite launches.</p>		
Project 2617	Page 2 of 5 Pages	Exhibit R-2 (PE 0605864F)

UNCLASSIFIED

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>		DATE <b>February 1999</b>																																																												
<b>BUDGET ACTIVITY</b> <b>6 - Management and Support</b>	<b>PE NUMBER AND TITLE</b> <b>0605864F Space Test Program (Space)</b>	<b>PROJECT</b> <b>2617</b>																																																												
<p><b>(U) C. <u>Program Change Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget (FY1999 PB)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">45,933</td> <td style="text-align: center;">55,099</td> <td style="text-align: center;">56,520</td> <td style="text-align: center;">Continuing</td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td style="text-align: center;">45,933</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Cong Gen Reductions</td> <td></td> <td style="text-align: center;">-494</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. SBIR</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogramming</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY1999 PB</td> <td></td> <td></td> <td style="text-align: center;">-3,441</td> <td style="text-align: center;">-7,131</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY2000 PB</td> <td style="text-align: center;">0</td> <td style="text-align: center;">45,439</td> <td style="text-align: center;">51,658</td> <td style="text-align: center;">49,389</td> <td style="text-align: center;">Continuing</td> </tr> </tbody> </table> <p>(U) Significant Program Changes:            (U) Two STP satellites were scheduled to launch on the Evolved Expendable Launch Vehicle (EELV) in FY02; one was redirected to fly on a Titan II launch vehicle, the second launch vehicle was canceled to pay higher Air Force priorities.            (U) Additional reductions in FY 2000-2002 for higher Air Force priorities delay the Communication/Navigation Outage Forecasting System (C/NOFS) mission 6-18 months, cancel one space control demonstration, and delay another space control new start by 12 months.            (U) FY99 \$1,399 identified as a source for SBIR            (U) Space Test Program (Space) is funded in PE 0605864F starting in FY99. Prior year funding is in PE 0603402F.</p> <p><b>(U) D. <u>Other Program Funding Summary (\$ in Thousands):</u></b> Not Applicable</p> <p><b><u>Related RDT&amp;E:</u></b>            (U) PE 0305119F, Medium Launch Vehicles            (U) PE 0305144F, Titan Space Boosters            (U) PE 0305953F, Evolved Expendable Launch Vehicle            (U) PE 0603402F, Prior year STP funding</p>				<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>	(U) Previous President's Budget (FY1999 PB)	0	45,933	55,099	56,520	Continuing	(U) Appropriated Value		45,933				(U) Adjustments to Appropriated Value						a. Cong Gen Reductions		-494				b. SBIR						c. Omnibus or Other Above Threshold Reprogram						d. Below Threshold Reprogramming						(U) Adjustments to Budget Years Since FY1999 PB			-3,441	-7,131		(U) Current Budget Submit/FY2000 PB	0	45,439	51,658	49,389	Continuing
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>																																																									
(U) Previous President's Budget (FY1999 PB)	0	45,933	55,099	56,520	Continuing																																																									
(U) Appropriated Value		45,933																																																												
(U) Adjustments to Appropriated Value																																																														
a. Cong Gen Reductions		-494																																																												
b. SBIR																																																														
c. Omnibus or Other Above Threshold Reprogram																																																														
d. Below Threshold Reprogramming																																																														
(U) Adjustments to Budget Years Since FY1999 PB			-3,441	-7,131																																																										
(U) Current Budget Submit/FY2000 PB	0	45,439	51,658	49,389	Continuing																																																									
Project 2617	Page 3 of 5 Pages	Exhibit R-2 (PE 0605864F)																																																												

DATE  
**February 1999**

BUDGET ACTIVITY  
**6 - Management and Support**

PE NUMBER AND TITLE  
**0605864F Space Test Program (Space)**

Experiments are funded by many Science and Technology (S&T) PEs in Air Force, Army, Navy, DARPA, BMDO, DoE, NASA, and other programs.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
<b>6 - Management and Support</b>	<b>0605864F Space Test Program (Space)</b>	<b>2617</b>
<p><b>(U) E. <u>Acquisition Strategy</u></b></p> <p>(U) 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, NRO, BMDO, and other representatives, annually prioritizes experiments for spaceflight. The Board gives the prioritized list of experiments to STP, who 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 launch vehicle-class satellites, as well as small launch vehicle-class boosters (such as Pegasus XL, Taurus, and Athena). Medium launch vehicle-class boosters from PE 35119F, PE 35144F, and PE 35953F 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.</p>		
Project 2617	Page 4 of 5 Pages	Exhibit R-2 (PE 0605864F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 1999								
BUDGET ACTIVITY <b>6 - Management and Support</b>					PE NUMBER AND TITLE <b>0605864F Space Test Program (Space)</b>						PROJECT <b>2617</b>								
<p>(U) <b>F. Schedule Profile</b> These are anticipated launch dates. (Current projection. Schedule evolves as spaceflight opportunities, budget, and DoD experiment rankings change).</p>																			
		<u>FY 1998</u>					<u>FY 1999</u>					<u>FY 2000</u>					<u>FY 2001</u>		
	1	2	3	4	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 (Delta II)- ESEX, USA, GIMI, CIV, SPADUS, HIRAAS, HTSSE II, EUVIP, CERTO (P91-1)						*													
(U) STS-93 STL-B, CCM-C, MSX, LFSAH, SIMPLEX, MEMS						X													
(U) TSX-5 (Pegasus XL)- STRV II, CEASE (P95-2)							X												
(U) STS-96** - TBD							X												
(U) POGS-II (S92-1)								X											
(U) CHAWS-LD** (OSP) (S99-1)								X											
(U) PICOSat (TBD LV)- PBEX, IOX, CERTO, OPPEX (P97-1)									X										
(U) MTI/HXRS** (Taurus) (P97-3)									X										
(U) CEASE, CERTO PLUS (STRV1 C/D) (S97-1, S97-2)									X										
(U) SINDRI/MightySat II.1** (TBD LV) (P99-1)										X									
(U) ISS-13A** ACESE																	X		
(U) ISS-15A** CREAM																	X		
(U) Coriolis** (Titan II) (P98-2)																	1QFY02		
(U) C/NOFS** (TBD LV) (P99-a)																	3QFY02		
<p>* = completed event                      X = planned event                      **New spaceflight opportunity since FY99PB</p>																			
Project 2617					Page 5 of 5 Pages					Exhibit R-2 (PE 0605864F)									

**THIS PAGE INTENTIONALLY LEFT BLANK**