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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 6: RDT&E Management Support					R-1 Program Element (Number/Name) PE 1206864F I Space Test Program (STP)							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	29.016	25.620	26.097	0.000	26.097	26.550	27.103	27.596	28.093	Continuing	Continuing
662617: Free-Flyer Spacecraft Missions	-	29.016	25.620	26.097	0.000	26.097	26.550	27.103	27.596	28.093	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Space Test Program (STP) conducts space test missions for the purpose of accelerating DoD space technology transformation while lowering developmental risk. The program flies an optimally selected number of DoD-sponsored experiments consistent with Space Experiments Review Board (SERB) priority, opportunity, and funding. STP missions provide a cost-effective way to flight test new militarily relevant space system technologies, concepts, and designs, providing a way to:

- Support the acquisition block development approach
- Demonstrate and develop responsive research and development (R&D) space capabilities
- Provide early operational capabilities to quickly react to new developments
- Perform operational risk reduction through direct flight test of prototype components
- Improve operational design by characterizing the space environment, event, or sensor physics proposed for an operational system/system upgrade
- Develop, integrate, test, and acquire advanced payload support hardware for launch vehicles (LV), commercial launch services, and human-rated spaceflight vehicles

The Deputy Secretary of Defense Space Test Program Management & Funding Policy, issued in July 2002, reaffirmed STP as the primary provider of spaceflight for the DoD space research community. The July 2002 policy statement also reaffirmed STP's role as the single manager for all DoD payloads on the International Space Station (ISS).

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver STP weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

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As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.						
This program is in Budget Activity 6, RDT&E Management Support because this budget activity includes research, development, test and evaluation efforts and funds to sustain and/or modernize the installations or operations required for general research, development, test and evaluation.						
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		25.398	25.620	26.097	0.000	26.097
Current President's Budget		29.016	25.620	26.097	0.000	26.097
Total Adjustments		3.618	0.000	0.000	0.000	0.000
• Congressional General Reductions		-0.372	0.000			
• Congressional Directed Reductions		0.000	0.000			
• Congressional Rescissions		0.000	0.000			
• Congressional Adds		0.000	0.000			
• Congressional Directed Transfers		0.000	0.000			
• Reprogrammings		4.836	0.000			
• SBIR/STTR Transfer		-0.846	0.000			
• Other Adjustments		0.000	0.000	0.000	0.000	0.000
Change Summary Explanation						
FY 2018: \$4.836 million increase for Monolith effort						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
Title: Payload Integration				15.589	17.319	20.175
Description: Integrate payloads onto spaceflight missions, including free-flyer payloads, hosted payloads, sounding rockets, experiments on the International Space Station (ISS), and commercial missions. Includes acquisition of associated spacecraft and integration hardware.						
FY 2019 Plans:						
Complete development, launch, and deploy Space Test Program Satellite-4 (STPSat-4) from the ISS.						
Complete payload integration and launch STP-Houston 6 (H6).						
Continue payload integration efforts and launch-based processing and launch operations for STPSat-6 and other efforts onto spaceflight missions.						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
Continue rapid response to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc. FY 2020 Plans: Continue payload integration of STP-H7 and begin acquisition of STP-H9. Complete payload integration efforts and launch-based processing and launch operations for STPSat-6. Begin satellite acquisition and integration of STPSat-7. Continue program office support and other related support activities. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc. Exploring potential international rideshare opportunities and identify pathfinder for international Science & Technology payload rideshare process. FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 increase compared to FY 2019 by \$2.856M. Justification for this increase is described in plans above.				
Title: Launch Vehicle and Launch Services Description: Purchase launch services, launch vehicles and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions, and support the spaceflight worthiness and "Do No Harm" certification for Space and Missile Systems Center (SMC) and Air Force Space Command. FY 2019 Plans: Continue purchase of launch services, launch vehicles, and launch vehicle support for free-flyer payloads, hosted payloads, sounding rockets, experiments on the ISS, and commercial spaceflight missions. Complete integration of STPSat-6 to the STP-3 launch vehicle. Begin Monolith launch vehicle preparation, an extension of the Rapid Agile Launch Initiative (RALI). Plan to launch commercial mission from Mid-Atlantic Regional Space Port on Wallops Island, Virginia. Launch additional payloads to the ISS. Continue rapid response to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, prototyping, etc. FY 2020 Plans: Launch STPSat-6 on STP-3 launch vehicle. Continue to support spaceflight worthiness and "Do No Harm" certification.		8.875	6.156	4.528

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
Continue program office support and other related support activities. Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc.				
FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 decreased compared to FY 2019 by \$1.629M. Justification for this decrease is described in plans above.				
Title: On Orbit Satellite Operations Description: Execute first-year operations and operations support for STP-sponsored missions. FY 2019 Plans: Complete first year operations for STPSat-5, Evolved Expendable Launch Vehicle (EELV) Secondary Payload Adapter (ESPA)-Augmented Geostationary Laboratory Experiment (EAGLE), and STP-2 payloads, the Demonstration and Science Experiment (DSX) and NASA's Green Propellant Infusion Mission (GPIM). FY 2020 Plans: Begin first year on-orbit operations support for STPSat-6 and the Long Duration Propulsive ESPA-1 (LDPE-1). Complete STP-2 payloads on-orbit support for GPIM and DSX and continue DSX on orbit operations for an additional year to satisfy SERB experiment objectives for DSX Cyber Hardness Augmentation of an On-Orbit Satellite (CHAOS). Rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities may include, but are not limited to program office support, studies, technical analysis, experimentation, prototyping, etc. FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 decreased compared to FY 2019 by \$0.751M. Justification for this decrease is described in plans above.		4.552	2.145	1.394
Accomplishments/Planned Programs Subtotals		29.016	25.620	26.097
D. Other Program Funding Summary (\$ in Millions) N/A Remarks				
E. Acquisition Strategy N/A				
F. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.				