Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force												Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 1206730F / *Space Security and Defense Program*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	-	56.385	0.000	0.000	0.000	0.000	-	-	-	-	-	-
64A025: *Space Protection Program*	-	56.385	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY 2022, PE 1206730F, SSDP efforts were transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206730SF, SSDP from Appropriation 3600, Budget Activity 04 due to the creation of a new Appropriation for Space Force.

This Program Element funds the Department of Defense (DoD)/United States Space Force (USSF) Space Security and Defense Program (SSDP). The SSDP is a Joint DoD and Office of the Director of National Intelligence (ODNI) organization established to function as the center of excellence for options and strategies (materiel, non-materiel, cross-Title, cross-domain) leading to a more resilient and enduring National Security Space (NSS) Enterprise. The SSDP operates under the authority of the Deputy Secretary of Defense (DEPSECDEF) and Principal Deputy Director of National Intelligence (PDDNI) to lead and collaborate on space protection vulnerability, susceptibility, and mitigation assessments of NSS services for the purpose of identifying, assessing, validating and introducing protection solutions into existing requirements, budgeting and investment decision processes, informing the development of Concepts of Operations and Tactics, Techniques and Procedures (TTPs), and influencing policy along with program technical approaches. This unique mission provides an ongoing and crucial core protection competency that advances specific projects/activities (including non-kinetic techniques) to deliver comprehensive, economical and actionable solutions for both programmatic and operational domains.

The SSDP scope spans multiple space missions and stakeholders including the DoD, Intelligence Community (IC), civil, commercial, and international space entities that support NSS missions in both peacetime and throughout all phases of conflict. It is focused on being responsive to NSS stakeholders in providing technical and operational assessments of emergent threat concepts, and developing near-term and far-term plans to address architectures, strategies, threats, and vulnerabilities. SSDP Projects are structured/designed to have an impact across all time horizons; near-term focused efforts to complicate adversary operations, mid-term focused efforts to improve system and enterprise survivability, and long-term focused efforts to render adversary capabilities ineffective.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver SSDP capability leading to a more resilient and enduring NSS enterprise. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

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B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	56.385	56.311	68.655	0.000	68.655
Current President's Budget	56.385	0.000	0.000	0.000	0.000
Total Adjustments	0.000	-56.311	-68.655	0.000	-68.655
• Congressional General Reductions	0.000	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	-56.311			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	-68.655	0.000	-68.655

Change Summary Explanation

The three product areas described in last years R-Doc (Enterprise Capabilities & Solutions; Mission Area Protection Concepts & Architectures; and Operational Tactics, Experiments & Prototypes) are continuing in roughly the same proportions. As SSDP puts more emphasis on offensive force design and future technology architectures, bins described in this document have been altered to better reflect the portion of the architecture that will be effected in upcoming years. The new product areas are; Defend the Legacy Architecture; Develop a Resilient & Responsive Architecture; and Prepare for the Future Fight. Continuing and new SSDP projects have been re-binned into these areas.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Space Protection and Survivability	56.385	0.000	0.000
Description: SSDP organizes, plans, and executes specific analysis, experimentation and prototyping projects. Project prioritization and content is informed by tailored space threat characterizations, leveraging the program's extensive ties to the larger National Security Space (NSS) and Intelligence Communities (IC). These tailored characterizations are anchored to the IC's most current intelligence reporting and foundational assessments. Where gaps in available intelligence information negatively impact the ability to pursue viable solutions, SSDP expands upon existing threat information through detailed technical and operational analysis, such as to account for evolved/future threat developments, to ensure the enduring effectiveness of proposed threat mitigation solutions. The process includes decomposition of each threat to identify potential countermeasures and defeat opportunities. Projects will support development of TTPs and CONOPS for protection solutions developed by SSDP partners across the NSS Enterprise. Projects in all three areas will include non-kinetic solutions for protecting specific capabilities and the NSS Enterprise. The program will accomplish these goals through in-depth technical analysis utilizing in-house high-fidelity M&S tools, physics-based models, selective partnering with national labs, and advanced data studies and experimental data analytics along with other			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
means/methods as required to deliver actionable, timely and efficient protection solutions. This deliberate variation in approach allows the program to tailor its efforts to the unique challenges and needs of each project and provide the analytical rigor essential for informing experiment/prototype selection and design to ensure the highest possible return on investment and mission impact. ***FY 2021 Plans:*** FY2021 program activities focus on in-depth technical analysis utilizing tailored modeling & simulation (M&S) complemented by focused warfighter/operator engagements in support of both pre-planned and emergent NSS protection analysis, experimentation and prototyping goals. The program will be responsive to time sensitive and evolving enterprise requirements throughout the year while maintaining momentum on addressing enduring and projected space protect and defense requirements at both the system and enterprise levels. Specific program projects are selected based on a deep understanding of the threat enabled by the program's extensive ties to the larger NSS and Intelligence Community (IC). The program will use the IC's foundational assessments, combined with engineering analysis, to craft threat characterizations; capturing both current and evolved/future capabilities which are tailored to inform SSDP's priorities and associated project activities. These tailored products will support studies, experiments, and analysis to identify potential opportunities to counter threats across their operational envelopes. The program will then evaluate the effectiveness of exploiting these opportunities, alone or in layered packages, against the projected threats. Finally, based on this analysis, the program will initiate in-house, or with a mission partner, projects to exploit and combine these opportunities into a set of layered activities with the intended effect of countering adversary threats. Specific to FY2021, Enterprise Capabilities & Solutions projects will utilize the program's broad and robust physics-based M&S capabilities, its maturing campaign and enterprise level rapid analysis capabilities, and its experienced cadre of analysts to: Examine planned DOD and IC programs, experiments and demonstrations to provide protection recommendations to preserve U.S. capabilities; mature analysis capabilities focused on evaluating protection options for PLEO systems, and their impact on the space and multi-domain campaigns; recommend architecture and policy solutions/changes to optimize the deployment of new capabilities to deliver critical warfighting effects to include the necessary C2; influence policy and guidance across the NSS enterprise while advancing towards more resilient future architectures; and explore early phase reversible protect and defend Electronic Warfare (EW) related capabilities to provide greater flexibility and freedom of maneuver to win the space fight. FY2021 Operational Tactics, Experiments & Prototypes projects will incorporate C2, SSA, and Space Control concepts, planned capabilities and TTPs into relevant/targeted prototyping and experimentation activities to: Mature and shape CONOPS for programed/anticipated systems through rigorous analysis informed by experimentation and prototyping (both in-house and with/through mission partners); develop force packages for Combatant Commanders providing multiple options across all phases of conflict vs. specific adversary capabilities supported by tools allowing for operational level space C2 Course of Action (COA) planning informed by quantitative analysis of COA results; and incorporate objectives to demonstrate Title 10/50 space protection coordination, explore data fusion and, potentially, include the integration of commercial tools and services. The program will			

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
accomplish these goals through in-depth technical analysis utilizing in-house high-fidelity M&S tools, physics-based models, selective partnering with national labs, and advanced data studies and experimental data analytics along with other means/ methods as required to deliver actionable, timely and efficient protection solutions. This deliberate variation in approach allows the program to tailor its efforts to the unique challenges and needs of each project and provide the analytical rigor essential for informing experiment/prototype selection and design to ensure the highest possible return on investment and mission impact. The program's FY2021 projects will have the combined impact of continuing to mature and enhance the protection-oriented tools, policies, requirements and programs necessary to maintain and accelerate progress towards achieving resilience across the NSS enterprise. In the face of an increasingly complex and contested space environment, this capacity and capability is central to national security space protection efforts and is a critical advancement for staying abreast and ahead of both current and next generation threats. ***FY 2022 Plans:*** N/A ***FY 2021 to FY 2022 Increase/Decrease Statement:*** N/A			
Accomplishments/Planned Programs Subtotals	56.385	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. The program consists of numerous small projects.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 1206730F / *Space Security and Defense Program*	Project (Number/Name) 64A025 / *Space Protection Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Protection and Survivability	Various	Various : Various	-	50.893	May 2020	0.000	May 2021	-		-		-	-	-	-
		Subtotal	-	50.893		0.000		-		-		-	-	-	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and Infrastructure	Various	Various : Various	-	1.589	Mar 2020	0.000	Mar 2021	-		-		-	-	-	-
Oversight, Advisory and other Technical Support	Various	Various : Various	-	3.903	Mar 2020	0.000	Mar 2021	-		-		-	-	-	-
		Subtotal	-	5.492		0.000		-		-		-	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	56.385		0.000		-		-		-	-	-	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 1206730F / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

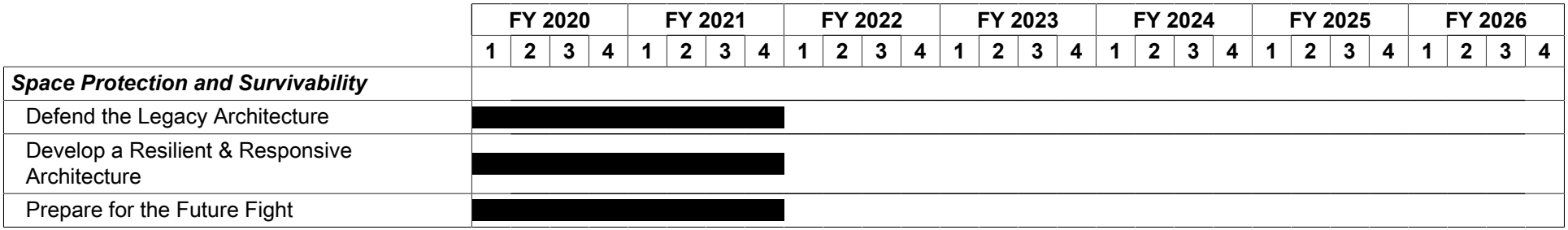

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 1206730F / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Space Protection and Survivability				
Defend the Legacy Architecture	1	2020	4	2021
Develop a Resilient & Responsive Architecture	1	2020	4	2021
Prepare for the Future Fight	1	2020	4	2021