Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force											Date: April 2022	
Appropriation/Budget Activity 3620F: *Research, Development, Test & Evaluation, Space Force* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 1206730SF / *Space Security and Defense Program*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	56.311	53.896	59.169	0.000	59.169	60.151	51.623	52.792	53.820	Continuing	Continuing
64A025: *Space Protection Program*	-	56.311	53.896	59.169	0.000	59.169	60.151	51.623	52.792	53.820	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Program Element (PE) 1206730F, Space Security and Defense Program (SSDP) funds Department of Defense (DoD)/United States Space Force (USSF) Space Security and Defense Program. 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, nonmateriel, cross-Title, cross-domain) leading to a more resilient National Security Space (NSS) Enterprise to support stakeholders including the DoD, Intelligence Community (IC), civil, commercial, and international space entities/missions; supporting national security missions in both peacetime and throughout all phases of conflict. 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 NSS susceptibility and vulnerability assessments, and lead threat mitigation processes. SSDP's unique position within the DoD and ODNI, authorities from DEPSECDEF and PDDNI, and broad NSS-scoped mission-set provides a crucial and objective protection competency; advancing the highest priority efforts to deliver economical, programmatically-executable, and operationally-relevant space protection solutions for the Nation.

SSDP's scope includes the capability to conduct rigorous foundational analyses in order to understand the threat and operations environments, and plan and execute projects to discover, analyze, and validate near-term and far-term options to mitigate these threats, render adversary capabilities ineffective, and result in more resilient space effects for national security missions. Validated options/solutions to mitigate/defeat adversary counterspace threats are proposed to NSS stakeholders and introduced into their requisite requirements, budgetary, and investment decision processes; manifesting themselves (as appropriate) in Tactics, Techniques, and Procedures (TTP), Concepts of Operations (CONOPS), space policy, and Space Control mission area force design recommendations including technical system and/or architectural recommendations.

It is important to note that SSDP's mission is distinctly different from the USSF's Space Warfighting Analysis Center (SWAC); focusing its efforts on the Space Control mission area for the NSS enterprise while the SWAC's mission is aligned with Service authorities and focuses on USSF-specific priorities. SSDP will continue to share their extensive threat models and analyses with the SWAC to ensure efficiency and speed of analysis.

This program element may include necessary emergent or unanticipated civilian pay expenses required to manage and execute SSDP and/or deliver products for emergent or unanticipated weapon system capabilities.

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 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	56.311	56.546	0.000	0.000	0.000
Current President's Budget	56.311	53.896	59.169	0.000	59.169
Total Adjustments	0.000	-2.650	59.169	0.000	59.169
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-2.650			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	59.169	0.000	59.169

Change Summary Explanation

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

NOTE: SSDP received an FY22 Congressional reduction, -$2.65M for forward financing.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Title: Space Protection and Survivability	56.311	53.896	59.169	0.000	59.169
Description: SSDP efforts are deliberately organized to make meaningful contributions to discover, analyze, and validate near-term and far-term options to improve the resilience of space effects for national security missions; in doing so SSDP applies physics-based models and simulation environments, and high fidelity data-driven technical analysis to mitigate adversary counterspace threats consistent with NSS priorities. SSDP has conducted foundational work with key stakeholders to assess current and emerging adversary threat capabilities and concepts with Intelligence Community (IC) partners and counterspace subject matter experts; and to organize, plan, and execute a series of policy, doctrine, strategic messaging, fire control, and wargaming efforts to inform its force design and system/architecture recommendations. Rigorously-validated threat mitigation research, analyses, and demonstrations are closely-coupled with this foundational work, and yield actionable, timely, and efficient protection products that shape integrated force design guidance in Space Control-related mission areas, and inform requisite requirements, budgetary, and investment decision processes; manifesting themselves (as appropriate) in programs and architectures, as well as CONOPS TTPs, and space policy. SSDP					

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
activities ultimately prepare options and strategies to increase NSS capabilities' resilience and availability for national security missions in both peacetime and throughout all phases of conflict. ***FY 2022 Plans:*** In FY 2022 SSDP organized its data-driven technical analysis, physics-based models and simulation environments and capabilities toward prior years' enduring product areas/objectives including: 1) Foundational Work, 2) Defend the Legacy, 3) Pivot to Offense, and 4) Prepare for the Future Fight, with FY 2022-specific focus areas. The 90-Day Study, SecAF Space Strategy, and OSD-requested Space Program Reviews shaped the specific activities, and SSDP is also increasing its weight of effort toward objectives 3) Pivot to Offense and 4) Prepare for the Future Fight. In FY 2022 there were multiple efforts aligned with SSDP's first foundational objective. All efforts leveraged prior accomplishments toward NSS priorities, and advanced or commenced threat characterization and definition packages to meet ongoing and new-priority needs. SSDP also started promulgating a new Model-Based Systems Engineering (MBSE) standards/style guide through its space protection simulations, Wargaming and other analyses efforts to communicate the counterspace threat environment with internal and external transition partners, and its interplay with Force Designs and warfighting concepts, doctrine, and policy. Objectives to defend legacy capabilities and establish a more offensive space protection posture required efforts to discover, analyze, and validate space control force design recommendations, and some continued partnership investments to transition specific system/technology solutions and concepts with key stakeholders including planned and programmed future capabilities. Examples include a variety of efforts to advance Electronic Warfare (EW) and Command and Control (C2), dissect blue kill chains, produce design reference missions, and analyze multi-domain space and terrestrial scenarios to maximize NSS space effects to the warfighters in and through a space fight. SSDP recognized a need to increase focus toward options that increase NSS resilience and effectiveness in future fights through new ways of looking at space protection. Activities aligned with this fourth objective and non-traditional solution-space will create opportunity to manage escalation through exploring a diverse portfolio of activities to better understand and mature non-traditional kill chains and mechanisms, diversify data transport and processing, harden systems, and improve the C2 required to successfully employ these efforts. ***FY 2023 Base Plans:***					

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
In FY 2023 SSDP will remain focused on its three enduring objective areas: Defend the Legacy Architecture, Pivot to Offense, and Prepare for the Future Fight; emerging and backlogged priorities will be emphasized as FY 2022 mitigation work completes or transitions. Foundational work must continue to mature and drive threat assessments with stakeholders to inform concepts, doctrine, policy, space control force designs, fire control solutions, and MBSE products through wargaming and other NSS stakeholder activities. SSDP will remain committed to research, study, and demonstrate in the best interest of and in accordance with the priorities of the NSS stakeholders it represents and serves, with ever-maturing technical rigor as this counterspace and space protection landscape continue to unfold and evolve. In FY 2023, foundational efforts to promulgate MBSE across space protection analyses and solutions as well as threat definition documentation will increase the value of SSDP's foundational work toward NSS priorities. Space protection simulations, Wargaming and other analyses will continue to mature with space protection capabilities NSS Force Designs, warfighting concepts, doctrine, and policy. Program efforts to defend legacy capabilities and establish offensive space protection capabilities will continue to mature ongoing space control force designs and associated design-specific system/technology solutions and concepts with key stakeholders. FY 2022 efforts to advance EW and C2, dissect blue kill chains, produce design reference missions, and analyze multi-domain space and terrestrial scenarios will produce opportunities to prototype and/or demonstrate, and transition to NSS stakeholders. 2023 will focus on evolving 2022 force designs to enable the US to more flexibly hold adversary capabilities at risk without increased risk of escalation. SSDP's diverse portfolio of FY 2022 activities and accomplishments further advanced the landscape of space protection and substantiated a more pronounced focus on preparing for the future fight. This heightened focus on the non-traditional solution-space will further-refine kill chains and mechanisms, diversify data transport and processing, harden systems, and validate the readiness of prospective C2 solutions for subsequent demonstration and prototyping; ultimately providing options to manage escalation and increase NSS resilience and effectiveness in future fights. ***FY 2023 OCO Plans:*** N/A ***FY 2022 to FY 2023 Increase/Decrease Statement:***					

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force	Date: April 2022
Appropriation/Budget Activity 3620F: *Research, Development, Test & Evaluation, Space Force I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 1206730SF *I Space Security and Defense Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
FY 2023 funds increased due to inflation and to reflect annual funding levels necessary to support the space protection and survivability analysis mission area.					
Accomplishments/Planned Programs Subtotals	56.311	53.896	59.169	0.000	59.169

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

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 efforts/ projects.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force			Date: April 2022
Appropriation/Budget Activity 3620F / 4	**R-1 Program Element (Number/Name)** PE 1206730SF / *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 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Protection and Survivability	Various	Various : TBD	-	50.133	May 2021	47.665	May 2022	52.524	Jan 2023	-		52.524	Continuing	Continuing	-
		Subtotal	-	50.133		47.665		52.524		-		52.524	Continuing	Continuing	N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and Infrastructure	Various	Various : TBD	-	1.995	Mar 2021	2.138	Mar 2022	2.326	Nov 2022	-		2.326	Continuing	Continuing	-
Oversight, Advisory and other Technical Support	Various	Various : TBD	-	4.183	Mar 2021	4.093	Mar 2022	4.319	Nov 2022	-		4.319	Continuing	Continuing	-
		Subtotal	-	6.178		6.231		6.645		-		6.645	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	56.311		53.896		59.169		-		59.169	Continuing	Continuing	N/A

Remarks

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3620F / 4	**R-1 Program Element (Number/Name)** PE 1206730SF / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

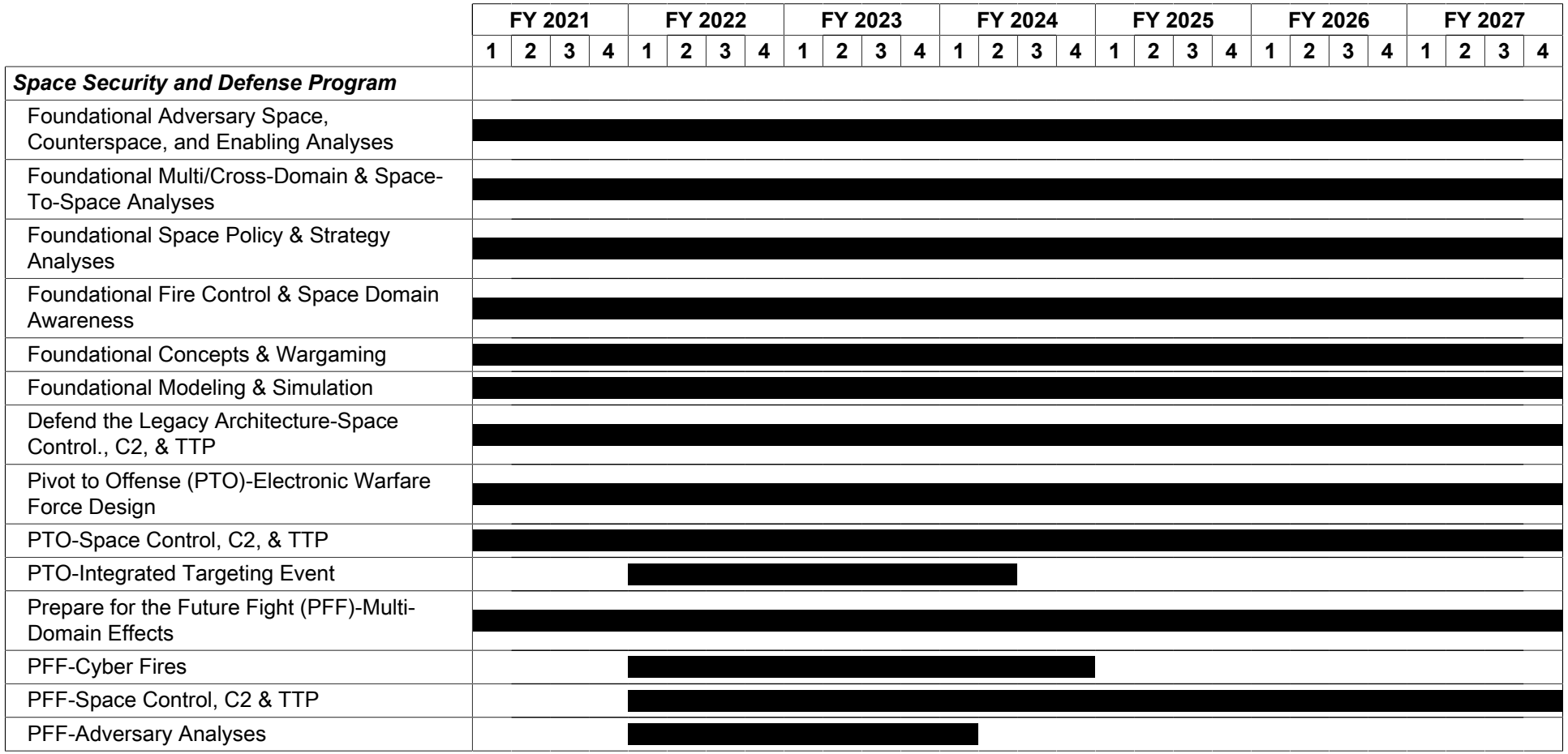

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force		Date: April 2022
Appropriation/Budget Activity 3620F / 4	**R-1 Program Element (Number/Name)** PE 1206730SF / *Space Security and Defense Program*	**Project (Number/Name)** 64A025 / *Space Protection Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Space Security and Defense Program				
Foundational Adversary Space, Counterspace, and Enabling Analyses	1	2021	4	2027
Foundational Multi/Cross-Domain & Space-To-Space Analyses	1	2021	4	2027
Foundational Space Policy & Strategy Analyses	1	2021	4	2027
Foundational Fire Control & Space Domain Awareness	1	2021	4	2027
Foundational Concepts & Wargaming	1	2021	4	2027
Foundational Modeling & Simulation	1	2021	4	2027
Defend the Legacy Architecture-Space Control., C2, & TTP	1	2021	4	2027
Pivot to Offense (PTO)-Electronic Warfare Force Design	1	2021	4	2027
PTO-Space Control, C2, & TTP	1	2021	4	2027
PTO-Integrated Targeting Event	1	2022	2	2024
Prepare for the Future Fight (PFF)-Multi-Domain Effects	1	2021	4	2027
PFF-Cyber Fires	1	2022	4	2024
PFF-Space Control, C2 & TTP	1	2022	4	2027
PFF-Adversary Analyses	1	2022	1	2024