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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2025 Air Force **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F: <i>Research, Development, Test &amp; Evaluation, Space Force I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 1206857SF / <i>Space Rapid Capabilities Office</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	-	52.286	12.036	11.361	0.000	11.361	9.794	9.997	10.357	10.561	Continuing	Continuing
64A020: <i>AF Funded ORSSats</i>	-	52.286	12.036	11.361	0.000	11.361	9.794	9.997	10.357	10.561	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Space Rapid Capabilities Office (Space RCO) mission is to expedite the development and fielding of operationally focused capabilities for immediate and near term needs as directed by the Space RCO Board of Directors (BoD). Key operating principles include a short and narrow chain of command, overarching programmatic insight, early and prominent war fighter involvement, and small integrated teams within a single office to rapidly augment existing space capabilities when needed, to expand operational capability, reconstitute/replenish/protect critical space capabilities to reserve "continuity of operations" capability, and exploit space technological or operational innovations to increase U.S. advantage.

The Space RCO is ready to develop, test, train, and equip war fighter needs as they are identified at any time. First, the requirements must be validated by the commander U.S. Space Command; second, the project must be approved by the Space RCO BoD; third, the project will be executed by the Space RCO. If the effort is initiated during execution year, it will be described in the next year's budget exhibit.

Space RCO is supporting the Air Force Research Lab (AFRL) developed Space Solar Power project to collect solar energy and provide uninterrupted, assured, and logistically agile power to expeditionary forces operating in unimproved areas such as forward operating bases. AFRL formulated the Space Solar Power Incremental Demonstrations and Research (SSPIDR) project to rapidly demonstrate this innovative technology via a series of integrated demos and technology development/ maturation efforts.

In addition, Space RCO will conduct studies and analyses for future programs to support the BoD.

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

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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025 Base</b>	<b>FY 2025 OCO</b>	<b>FY 2025 Total</b>
Previous President's Budget	54.077	12.036	11.340	0.000	11.340
Current President's Budget	52.286	12.036	11.361	0.000	11.361
Total Adjustments	-1.791	0.000	0.021	0.000	0.021
• 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	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-1.791	0.000	0.021	0.000	0.021

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 64A020: AF Funded ORSSats

Congressional Add: *Hyper Converged Edge Computing*

Congressional Add Subtotals for Project: 64A020

Congressional Add Totals for all Projects

	<b>FY 2023</b>	<b>FY 2024</b>
	9.000	0.000
	9.000	0.000
	9.000	0.000

**Change Summary Explanation**

FY 2023: Decrease of \$1.791M due to realignment of funds to higher USSF priority.

**C. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
<b>Title:</b> Space RCO Board of Directors (BoD) Projects, Studies, and Analysis	8.872	9.365	9.557
<b>Description:</b> Execute projects, studies, and analyses under rapid acquisition authorities inherent to the Space RCO, that address emergent capabilities and respond to validated requirements and other BoD approved efforts to meet needs in year of execution. In addition, provide systems engineering, program management support and civilian pay across all the Space RCO activities as well as perform modeling, simulation, analyses, and assess alternative concepts and requirements.			
<b>FY 2024 Plans:</b> Continue to initiate rapid acquisition projects, studies, and analyses that address emergent capabilities requirements and other Space RCO BoD approved efforts. Continue ongoing systems engineering support of future mission development. Additionally, FY 2024 funding will allow the program to rapidly respond to implement system resiliency and situational awareness necessary			

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>
to operate in the contested space domain. Activities include, but are not limited to, program office support, studies, technical analyses, experimentation, prototyping, etc.  <b>FY 2025 Plans:</b> Continue to initiate rapid acquisition projects, studies, and analyses that address emergent capabilities requirements and other Space RCO BoD approved efforts. Continue ongoing systems engineering support of future mission development. Additionally, FY 2025 funding will allow the program to rapidly respond to implement system resiliency and situational awareness necessary to operate in the contested space domain. Activities include, but are not limited to, program office support, studies, technical analyses, experimentation, prototyping, etc.  <b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY 2025 increased due to inflation adjustment.				
<b>Title:</b> Space RCO Solar Power  <b>Description:</b> Space RCO is developing the Solar Power project to collect solar energy and provide uninterrupted, assured, and logistically agile power to expeditionary forces operating in unimproved areas such as forward operating bases.  <b>FY 2024 Plans:</b> Continue developing space-based solar power collection and transmission technology via a series of integrated demos and technology development/maturation efforts: 1) continue space flight demonstration of solar-to-RF panel payload (take delivery of solar-to-RF payload emulator, validate payload for delivery, continue pre-integration of payload-to-bus), 2) deliver thermal integrated demonstration for on-orbit demonstration, 3) initiate structural operational prototype based on results from scaled array payload demonstrations and validated models, 4) update operational prototype concept designs/analysis based on tile, rectenna, thermal and structure demonstrations and updated models, and 5) continue functional demonstrations for critical technologies in energy generation, deployable structures, thermal technology, RF transmission, and distributed control.  <b>FY 2025 Plans:</b> Continue developing space-based solar power collection and transmission technology via a series of integrated demos and technology development/maturation efforts: 1) continue space flight demonstration of solar-to-RF panel payload (take delivery of solar-to-RF payload emulator, validate payload for delivery, continue pre-integration of payload-to-bus), 2) deliver thermal integrated demonstration for on-orbit demonstration, 3) initiate structural operational prototype based on results from scaled array payload demonstrations and validated models, 4) update operational prototype concept designs/analysis based on tile, rectenna, thermal and structure demonstrations and updated models, and 5) continue functional demonstrations for critical technologies in		34.414	2.671	1.804

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2023	FY 2024	FY 2025
energy generation, deployable structures, thermal technology, RF transmission, and distributed control. FY 2025 will be the last year Solar Power funding will be in this PE due to the funding being continued in AFRL PE 1206458SF.			
<b>FY 2024 to FY 2025 Increase/Decrease Statement:</b> FY 2025 decreased due to funding (with the exception of transition funding in FY24 and FY25) being continued in AFRL PE 1206458SF.			
<b>Accomplishments/Planned Programs Subtotals</b>	43.286	12.036	11.361

	FY 2023	FY 2024
<b>Congressional Add:</b> Hyper Converged Edge Computing	9.000	0.000
<b>FY 2023 Accomplishments:</b> The Air Force Research Lab will execute the Hyper Converged Edge Computing project as a technology development effort with emphasis on accelerating artificial intelligence and machine learning applications in space.		
<b>FY 2024 Plans:</b> The Hyper Converged Edge Computing was a FY23 Congressional Add and no funding in FY24 is associated.		
<b>Congressional Adds Subtotals</b>	9.000	0.000

**D. Other Program Funding Summary (\$ in Millions)**

N/A

**Remarks**

**E. Acquisition Strategy**

Expediently award contracts through Space RCO or partner organizations.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force** **Date:** March 2024

<b>Appropriation/Budget Activity</b> 3620F / 4	<b>R-1 Program Element (Number/Name)</b> PE 1206857SF / <i>Space Rapid Capabilities Office</i>	<b>Project (Number/Name)</b> 64A020 / <i>AF Funded ORSSats</i>
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<b>Product Development (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Space RCO Board of Directors (BoD) Projects, Studies, and Analysis	Various	Various : Various	-	5.078	Mar 2023	4.763	Dec 2023	4.861	Dec 2024	-		4.861	Continuing	Continuing	-
Space RCO Solar Power	SS/CPFF	Northrop Grumman : Linthicum, MD	-	34.414	Nov 2022	2.671	Nov 2023	1.804	Nov 2024	-		1.804	Continuing	Continuing	-
Hyper Converged Edge Computing	C/TBD	TBD : TBD	-	8.800	Aug 2024	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	48.292		7.434		6.665		-		6.665	Continuing	Continuing	N/A

<b>Management Services (\$ in Millions)</b>				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FFRDC	RO	Aerospace/Sandia : Various	-	3.640	Dec 2022	4.448	Dec 2023	4.539	Dec 2024	-		4.539	Continuing	Continuing	-
A&AS	C/CPAF	Various : Various	-	0.154	Dec 2022	0.154	Dec 2023	0.157	Dec 2024	-		0.157	Continuing	Continuing	-
A&AS-Hyper Converged Edge Computing	MIPR	Various : Various	-	0.200	May 2023	-		-		-		-	Continuing	Continuing	-
<b>Subtotal</b>			-	3.994		4.602		4.696		-		4.696	Continuing	Continuing	N/A

			Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	52.286	12.036	11.361	-	11.361	Continuing	Continuing	N/A

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2025 Air Force</b>		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 4	<b>R-1 Program Element (Number/Name)</b> PE 1206857SF / <i>Space Rapid Capabilities Office</i>	<b>Project (Number/Name)</b> 64A020 / <i>AF Funded ORSSats</i>

FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				FY 2029			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

<b><i>Space Rapid Capabilities Office</i></b>	
Space RCO Board of Directors Projects, Studies, and Analysis	
Space RCO Solar Power	
Hyper Converged Edge Computing	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2025 Air Force		<b>Date:</b> March 2024
<b>Appropriation/Budget Activity</b> 3620F / 4	<b>R-1 Program Element (Number/Name)</b> PE 1206857SF / <i>Space Rapid Capabilities Office</i>	<b>Project (Number/Name)</b> 64A020 / <i>AF Funded ORSSats</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Space Rapid Capabilities Office</i></b>				
Space RCO Board of Directors Projects, Studies, and Analysis	1	2023	4	2029
Space RCO Solar Power	1	2023	4	2025
Hyper Converged Edge Computing	3	2023	4	2025