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 0305251F / *Cyberspace Operations Forces and Force Support*							
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	-	0.000	20.000	0.000	0.000	0.000	-	-	-	-	-	-
646008: *US Cyber Command Technology Development*	-	0.000	20.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY21 Congressional Add for Cyber kinetic combat environment to fund RDT&E Efforts at Playas Training and Research Environment (PTRE) The cyber kinetic combat environment was funded in FY18 in Budget Line 170 Defense Operations Security Initiative (DOSI), PE 020 334 5D8Z; in FY19 funding was in Budget line 171 Defense Operations Security (OPSEC), PE 020 334 5D8Z; and in FY20 funding was in Budget Line 176 Defense Operations Security Initiative (DOSI), PE 020 334 5D8Z

A. Mission Description and Budget Item Justification

Mission Description.

The Cyber Capabilities Support Office (CCSO) within the Air Force Concepts, Development, and Management (SAF/CDM) Office is partnered with the New Mexico Institute of Mining and Technology (NMT) to develop the Playas Training and Research Environment (PTRE) at the NMT. This team will: develop a vision and strategy for Multi Domain Operations at the PTRE, facilitate build-out of a research and experimentation environment supporting evaluation and development of Full-Spectrum Multi-Domain Operations from Cyber, Cognitive, Supervisory control and data acquisition (SCADA), to include Terrestrial and airspace through space domains. The development team will also design and develop an "Operator in the Loop" research methodology enabling researchers to evaluate research hypotheses via access to operational platforms to simultaneously conduct integrated training and exercise events. Additionally, the team will establish and re-engineer business processes and usher programs/projects from conceptualization through transition to operational and Service components.

Budget Item Justification

The NMT in conjunction with the Cyber Capabilities Support Office, will develop an environment at the Playas Training and Research Environment (PTRE) to advance DoD Information Dominance capabilities and effectiveness in support of the National Defense Strategy by replicating a multi-domain, information warfare combat environment for simultaneous operations, cyber enabled kinetic operations, or physically enabled cyber operations, while reducing the research-to-operational fielding timeline.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0304369F. In FY20 $0.000 was expended for civilian pay expenses in this program element, and in FY21 $0.400 is forecasted for civilian pay expenses in this program element."

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	35.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	20.000	0.000	0.000	0.000
Total Adjustments	-35.000	20.000	0.000	0.000	0.000
• 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	20.000			
• Reprogrammings	-35.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 646008: *US Cyber Command Technology Development*		
Congressional Add: *CCSO Tech Development*	-	20.000
Congressional Add Subtotals for Project: 646008	-	20.000
Congressional Add Totals for all Projects	-	20.000

Change Summary Explanation

Reprogramming occurred in FY2020, PE 0305251F, Cyberspace Operations Forces and Force Support, Project 646008, US Cyber Command Technology Development efforts were transferred to PE 0208087F, Distributed Cyber Warfare Operations, Project 674540, Cyber Tech Products - Payloads, to consolidate prototyping and development of cyber payload capabilities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
Congressional Add: CCSO Tech Development	-	20.000
FY 2021 Plans: Developing a vision and strategy for Multi Domain Operations at the Playas Training and Research Environment (PTRE) - Facilitating the build-out of a research and experimentation environment that supports evaluation and development of Full-Spectrum Multi-Domain Operations, from Cyber, Cognitive, Supervisory control and data acquisition (SCADA), Terrestrial, Airspace through Space domains		

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 0305251F / *Cyberspace Operations Forces and Force Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021
- Developing an "Operator in the Loop" research methodology that enables researchers to evaluate research hypotheses utilizing access to operational platforms to simultaneously develop and conduct integrated training and exercise events - Establishing and re-engineering business processes, ushering programs/projects from conceptualization through transition to operational and Service components		
Congressional Adds Subtotals	-	20.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The Cyber Capabilities Support Office utilizes a tailorable acquisition strategy that facilitates rapid delivery of material and non-material solutions to solve operational Offensive Cyber Operations requirements. This approach allows flexibility for solutions to enter the acquisitions process at any phase of the acquisition life cycle. All plans contain sufficient information for the Milestone Decision Authority to determine readiness to enter into the applicable phase of the acquisition process. CCSO, in conjunction with the Air Force Research Lab (AFRL) and the New Mexico Institute of Mining and Technology (NMT), provides the direction, equipment, research and development, developmental testing, operational test and evaluation, necessary facilities, legal and associated costs supporting cyber innovation leveraging cyber kinetic combat environment funding. In FY21, funds primarily utilize the Playas Electronic Attack & Cyber Environment (PEACE) contract held by AFRL. The PEACE contract provides acquisition of the infrastructure, material and services necessary to implement the strategic vision and assist in the transition of operations to Air Combat Command (ACC) in FY23. In addition, GSA contracts will provide MAJCOM Liaison, SME Program Management Support and SME SETA support.

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 0305251F / *Cyberspace Operations Forces and Force Support*	**Project (Number/Name)** 646008 / *US Cyber Command Technology Development*	

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
Develop vision and strategy; build-out of a research and experimentation environment; Develop "Operator in the Loop research methodology; Establish and re-engineer business processes	C/CPAF	New Mexico Tech : Socorro, NM	-	0.000		16.913	Apr 2021	0.000		0.000		0.000	-	-	-
		Subtotal	-	0.000		16.913		0.000		0.000		0.000	-	-	N/A

Support ($ 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
Air Combat Command Liaison ,Subject Matter Expert Program Support - Smartronix 47QFCA19F0003	C/CPAF	SMARTRONIX : California, MD	-	0.000		1.877	Apr 2021	0.000		0.000		0.000	-	-	-
Systems Engineering and Technical Assistance (SETA) Support - GSA Noblis 47QFNA19F0075	C/CPAF	NOBLIS : Reston, VA	-	0.000		0.370	Sep 2021	0.000		0.000		0.000	-	-	-
Gov Civilian Pay	TBD	US Gov Civilian : Washington, DC	-	0.000		0.400	May 2021	0.000		0.000		0.000	-	-	-
		Subtotal	-	0.000		2.647		0.000		0.000		0.000	-	-	N/A

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 0305251F / *Cyberspace Operations Forces and Force Support*	Project (Number/Name) 646008 / *US Cyber Command Technology Development*	

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
Contract Management: Playas Mission Effects Analysis for Multi-domain Sensing (MEAMS)	SS/FP	Infoscitex Corporation : Dayton,, OH	-	0.000		0.440	May 2021	0.000		0.000		0.000	-	-	-
		Subtotal	-	0.000		0.440		0.000		0.000		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	-	0.000		20.000		0.000		0.000		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 0305251F / *Cyberspace Operations Forces and Force Support*	**Project (Number/Name)** 646008 / *US Cyber Command Technology Development*

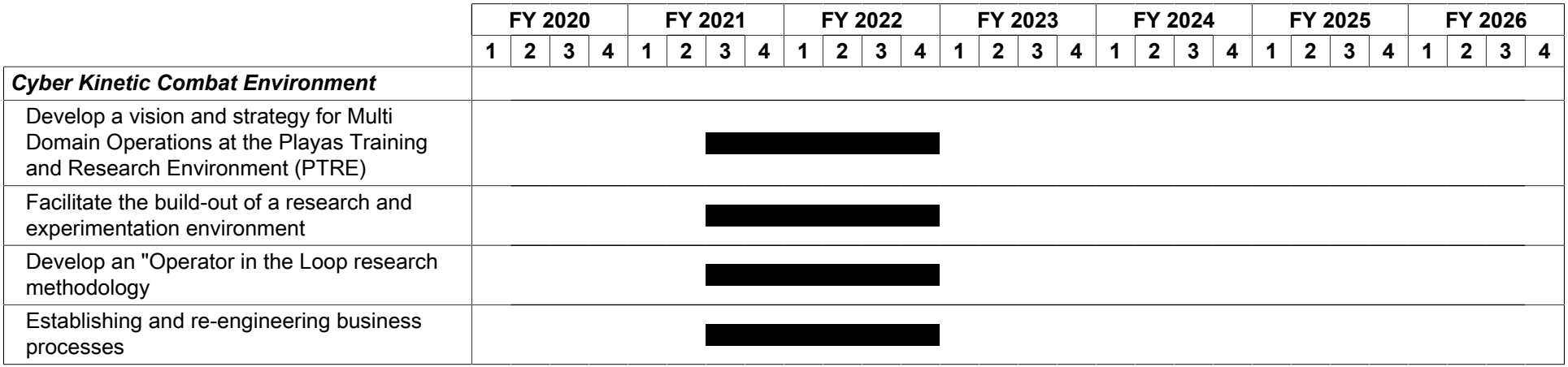

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 0305251F / *Cyberspace Operations Forces and Force Support*	**Project (Number/Name)** 646008 / *US Cyber Command Technology Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Cyber Kinetic Combat Environment				
Develop a vision and strategy for Multi Domain Operations at the Playas Training and Research Environment (PTRE)	3	2021	4	2022
Facilitate the build-out of a research and experimentation environment	3	2021	4	2022
Develop an "Operator in the Loop research methodology	3	2021	4	2022
Establishing and re-engineering business processes	3	2021	4	2022